The Medieval Craft of Memory

Mary Carruthers

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The Medieval Craft of Memory

An Anthology of Texts and Pictures

Edited by Mary Carruthers and Jan M. Ziolkowski

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An Anthology of Texts and Pictures

Edited by

MARY CARRUTHERS AND
JAN M. ZIOLKOWSKI

PENN

University of Pennsylvania Press
Philadelphia

Publication of this book was aided by a grant from the Abraham and Rebecca Stein Faculty Publication Fund of New York University, Department of English

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Printed in the United States of America on acid-free paper

10 9 8 7 6 5 4 3 2 1

First paperback edition 2004

Published by
University of Pennsylvania Press
Philadelphia, Pennsylvania 19104–4011

Library of Congress Cataloging-in-Publication Data
The medieval craft of memory : an anthology of texts and pictures / edited by Mary Carruthers and Jan M. Ziolkowski.
ISBN 0-8122-3676-9 (cloth : alk. paper) — ISBN 0-8122-1881-7 (pbk. : alk. paper)
p. cm.
Includes bibliographical references and index.
I. Mnemonics. I. Carruthers, Mary. II. Ziolkowski, Jan M., 1956–. III. Series.
BF385.M43 2002
153.1′2′0902—dc2I 2002020332

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GENERAL INTRODUCTION

Mary Carruthers and Jan M. Ziolkowski

This anthology is devoted to the methods of a craft that seems to many people now not just antiquated but wrongheaded—how can our own memory be thought of as the product of a craft? And even more to the point, why should it be? In one common meaning of the word, "memory" specifically connotes "storage," a treasure house both of experiences and of facts. We can think of our memories as being like valuables in a bank vault, just sitting in our brains, collecting dust and grime, perhaps (in a poorly made and tended vault) suffering depredations from rats and air pollution, until oblivion overtakes them. This is a curious intellectual model, for it suggests that our memories are essentially passive impressions of experiences we have had that can be taken out whole and unchanged whenever we need them. The notion that in re-collecting we actually *make* (and remake) our memories is regarded as somehow shameful, an admission that memory, like art and poetry, can "tell lies."

Yet it is also true that to make use of memories—indeed to know they are there in our minds at all—we must recall them to our active awareness, our knowing. Re-collection is not passive, but rather an activity involving human will and thought; it is often defined as a form of reasoning. One may conveniently think of this activity in spatial terms, as if memories have been stored in a variety of places and must be called together in a common place where we can become aware of them, where we can "see" them again and know them in the present. (Contemporary imaging of the brain activities involved in thought and recollection suggests that a spatial model may indeed reflect at some level what actually happens in the neurophysiology of human thought, though these techniques and analyses are still too unrefined to demonstrate fully to what degree this model is neurologically true.) In the locational model, stored memories are the materials of cognition, and the act of knowing begins (though it does not always end there) with the activities of finding and collecting their "images" from within one's mind.

Ancient and medieval writers on memory recognized, as we now do, the dual aspects of storage and recollection involved in remembering. Their commonest model for human memory likened it to a tablet or a parchment page, upon which a person writes. Re-collection was essentially a task of composition, literally bringing together matters found in the various places where they are stored to

be reassembled in a new place. The assumption that human memories are made and remade is emphasized by the very words used to describe memory. Far from being passive and thus (at least possibly) neutral, memory-making was regarded as active; it was even a craft with techniques and tools, all designed to *make* an ethical, useful product.

The anthology we have brought together here collects some of the tools thought useful in the Middle Ages for memory-making. In it are both words and pictures, intimately and collaboratively related as devices for composing thoughts and memories. In the words can be found many pictures—in the pictures many words. Moreover, it is not so apparent where one medium leaves off and the other begins, for many of the pictures are visual puns and pictures of words and many of the words are verbal paintings and drawings. In medieval learned cultures (all the material in this volume was produced in learned, even academic circles for purposes of reading and new composition), such a thorough mixing of media, especially the visual and the verbal, was commonplace. These two media not only referred importantly to other "things" both worldly and spiritual in nature—thus having some sort of representational "content," in our sense of the word—but were considered equally to be basic tools for making thoughts. They thus had a fundamentally cognitive function, quite beside whatever content they might have. Indeed, many of the pictures in this book are deliberately nonrepresentational because it is their cognitive function that is emphasized.

Memoria was the name given in monasticism to this cognitive craft, which is an art of composing. The realization that composing depended on a well-furnished and securely available memory formed the basis of rhetorical education in antiquity, the elementary education in language arts that was the vehicle for forming excellence (*paideia)* in both the person and the citizen. The founders of early monasticism—men like Augustine of Hippo, John Cassian, and Jerome —were formed by this ancient education and helped integrate its emphasis on "invention," the composition of speech, with the habits of meditation on sacred texts that had been cultivated for centuries in Judaism and then among the desert fathers of early Christianity in Syria, Palestine, and Egypt. These early monks called their meditational practice *mnēmē theou,* "memory of God," a goal achieved (though never completely) by a set of established practices, including particular postures, murmured pieces of memorized sacred text, and "pictures"—both mental and actual—used to induce a prescribed way of emotionally marked-out stages toward divine *theōria,* or "seeing." While their meditation usually began with an exactly repeated segment of text, it was then supposed to expand in prayerful

composition: as Hugh of St. Victor wrote in the early twelfth century, "Meditation is a regular period of deliberate thought. [It] takes its start from reading but is not at all bound by the rules or precepts of lecture. For it delights to run freely through open space . . ., touching on now these, now those connections among subjects . . . Whence it is that in meditation is to be found the greatest pleasure and amusement."[1]

Thus, as an art, memory was most importantly associated in the Middle Ages with composition, not simply with retention. Medieval *memoria* took the inventive function of human memory for granted, and emphasized it. Indeed, those who practiced the crafts of memory used them—as all crafts are used—to *make* new things: prayers, meditations, sermons, pictures, hymns, stories, and poems. Students of art and literature have long remarked on the intensely pictorial and affective qualities of these arts in the Middle Ages. Commonly this has been attributed to a need to accommodate the "rustic" qualities of their audiences. But a better reason for these characteristics may lie in the methods used to compose such works of art—in which case their pictorial intensity must be understood not as a condescension to rude minds but as a creative device of meditation itself, the first task of an artist, whether of prayer or painting, planning his work. And in the lastingly powerful effect these images, this music, these stories have had over the centuries, the continuing creativity of the mental crafts used to make them receives its best proof.

Most of the material in this collection was put together for the purposes of people needing to make compositions that were initially orally presented: sermons and prayers, school lectures and homilies. All of it was written down in the twelfth century or later, a time of spreading literacy in western Europe. More people had access to written texts, and more business was conducted using written materials, than had been the case during much of the preceding half millennium. And yet the increase in literacy, to a great extent driven by the growing respectability of vernacular languages, resulted in an *increased* interest in *memoria* and works devoted to its practice, not, as we might expect, a decrease. In the late medieval period Europe was a time of greatly increased audiences, in size and in diversity, for all sorts of artistic compositions, and the sheer amounts they consumed are astonishing to consider now. As we know from many sources, among them Chaucer's Wife of Bath, vernacular preaching was a major source of entertainment. On one famous occasion, a Dominican friar, William Jordan (d. after 1366), kept all London enthralled for a week with his preaching; another friar, Giordano of Pisa (d. 1310), preached for successive Lenten seasons, five times a day for forty days each time, to large crowds in the piazza before Santa Maria Novella in

Florence. In addition, lay people as well as clerics were enjoined to frequent personal devotions, including prayers, meditations, and examinations of conscience, all to be performed thoughtfully and mindfully. Composing such personal meditations became another major task of *memoria.* In fact, memory art and confession became so closely identified in the very late Middle Ages that a number of seventeenth-century works called "an art of memory" are devoted solely to examining one's conscience. These two tasks—composing sermons and meditations to be delivered to particular audiences and composing frequent personal devotions—govern much of the medieval craft of memory as it is represented in this collection. Only the earliest of our authors, Hugh of St. Victor (d. 1141), wrote entirely for a clerical audience living under a monastic rule, including the novices of his own order of Augustinian canons.

Basic Principles of *Memoria*

Because *memoria* is to such an important extent an art of composition, the primary goals in preparing material for memory are flexibility, security, and ease of recombining matters into new patterns and forms. Basic to these aims are the paired tasks of *division and composition.* A fourth-century grammarian, Julius Victor, whose work was especially influential in the earlier Middle Ages (and who, in turn, was most indebted to the first-century author Quintilian), wrote that *memoria* is "the firm mental grasp of things and words for the purpose of invention." To ensure this security, material is first cut up into *divisiones* or *distinctiones,* and then these segments are mentally marked and memorized in a readily recoverable order such as numerically or alphabetically. In this way, error is avoided: for if the pieces are securely bound together in a sequential order (such as one, two, three, etc.), none can be overlooked or forgotten. Each segment should be "short" *(brevis),* no larger than what your mental eye can encompass in a single glance or *conspectus.* This requirement answers to what psychologists now call short-term memory (a more recent term is "working memory"), the limits of which have been famously set at "seven-plus-or-minus-two" units.[2] By building chains of such segments in one's memory, a very long work—such as all the Psalms or the whole *Aeneid* —can readily be retained and securely recovered, either in its original order or rearranged and extracted to suit a new composition, simply by invoking various numerical sequences. Such enumeration of short segments of a long work is, of course, the principle behind numbering by chapter and verse. Hugh of St. Victor's preface to his biblical chronicle (Selection 1) details just how this essential method worked.

Thus, to divide matter into *distinctiones* in order to preach is a

device not so much for objective classification as for ease of "shuffling"—and the ability to "know where you are" in your composition. A simple, rigorous ordering scheme is critical to the practice of oratory, for it cues the way of a speaker's principal (or starting-) points, in the same manner as an outline does today. In doing so, it enables me, as speaker, readily to enlarge a point, to digress, and to make spur-of-the-moment rhetorical side trips of all sorts, because I can always be sure of "where I am" in the composition —not in the manner of a parrot (which, reciting mindlessly, never knows "where" it is) but in the manner of an experienced harbor pilot recalling landmarks.

The complementary principle to dividing is *gathering and collecting.* Each new composition can also be conceived as a place into which culled and recollected matters are gathered. The very concept of reading in Latin is based on the notion of "gathering," Latin *legere,* "to read" having as its root meaning "to collect up, to gather by picking, plucking, and the like." The Greek verb *legō* had a similar range of meaning, from "to lay" something down or "to lay asleep" to "to lay [things] in order," hence "to gather, pick up," "to relate," "to speak purposefully." The name of one venerable and essential type of ancient and medieval encyclopedia puns on these closely allied verbs: the *florilegium,* "flower-culling" (with a pun on "flower-reading"), a collection of sayings, maxims, and stories collected from past works, sometimes quoted exactly (though in mnemonically brief segments), but often just summarized. The best known of these through much of the Middle Ages was Valerius Maximus's *Dicta et facta memorabilia* (early first century C.E.), but there are many other examples. Indeed, the premodern encyclopedia itself is a sort of memory-book, the flowers of (one's extensive) reading gathered up in some orderly arrangement for the purpose of quick, secure recollection in connection with making a new composition. After all, this is one essential purpose of encyclopedias even today.

The schemes used varied greatly. In this collection alone are examples of the architectural plan and section of a large and entirely imaginary building (Noah's Ark), the feathers on the six wings of a seraphic angel, a five-story, five-room section of a house, a columnar diagram, the stones in the wall of a turreted urban tower, the rungs of ladders, the rows of seats in an amphitheater, and a world map. Gardens were also popular, the medieval sort of garden, with orderly beds of medicinal plants and fruit trees separated by grass and surrounded by a wall. Undoubtedly, gardens became popular with monastic and later writers because of the Song of Songs, a preeminent text for mystical meditation. Various other Biblical structures were often used too: the Tabernacle described in Exodus; the Temple

described in I Kings; the Jerusalem citadel envisioned by Ezekiel and often conflated with the Heavenly City of the Apocalypse. We now would never think to organize an encyclopedia of knowledge on the plan of Noah's Ark, but for a clerical audience to whom this text was as familiar as the order of the alphabet is to us—why not? It is a simple (if large), clearly arranged (if imaginary) composition site, containing many useful compartments with a straightforward route among them, a sort of foundational map to use in arranging your materials (or *res* in Latin) as you gather them into the location of your new composition from the networks of your experiences, including of course all your experiences of books, music, and other arts. Thus, in the course of an ideal medieval education, in addition to acquiring a great many segments of scriptural and classical texts, one also would acquire an extensive repertoire of image-schemes in which to put them, both "to lay them away" and "to collect them" in new arrangements on later occasions.

Locational Memory

These schematic images were often referred to as "pictures" (*picturae*), and were said to be "painted" in one's mind as a requirement of composition. In his influential treatise *The New Poetry (Poetria nova,* so named with reference to Horace's "old" poetry), which he composed in the very early thirteenth century, Geoffrey of Vinsauf describes how a poet should set to work on the model of an architect. "The measuring line of his heart" (45) designs the work as a whole. "Let the mind's interior compass first circle the whole extent of the material. Let a definite order chart in advance at what point the pen will take up its course, or where it will fix its Cadiz [its outermost goal and limit]. As a prudent workman, construct the whole fabric within the mind's citadel" (55–59).[3] These compositional tropes—the measuring line, the encircling compass, the map, the fabric of a building—are not just pleasant metaphors, but evoke specific categories of collecting and invention devices of the sort discussed above.

Pictures give the inventing recollection specific locations. It is basic to the nature of rhetorical *memoria,* yet too often underemphasized by modern scholars, that to do their work memories require "locations." Ancient teachings on the subject emphasize two different aspects that in practice do not have much to do with one another. One is the idea, known to the Middle Ages primarily through the works of Aristotle, that defines memories temporally, as being "of the past."[4] Augustine (354–430) too, in the *Confessions* and elsewhere, had emphasized the temporal nature of memories in his meditations on how we perceive time in our minds, but he had stressed that the act of remembering

goes on only in the present. The other common assertion, particularly in rhetorical teaching, is that memory requires locations and is essentially locational in nature.

The scholastic philosopher and Dominican friar Albertus Magnus (d. 1280) retained a conviction that a locational model of memory was essential for purposes of thinking. "Place," Albertus says, is "something the soul itself makes for laying up images" *(De bono,* Tractatus 4, Q. I2, art. 2, resp. 6; trans. Carruthers, *Book of Memory,* 277). To understand this proposition, he cites Boethius's commentary on Porphyry's *Isagoge,* one of the basic logic texts of the medieval school, that "Everything which is born or made exists in space and time." The images memory stores are such creations. But their temporal quality, that they are of the past, does not serve to distinguish them from one another, for "pastness" is a quality they all share. So to remember particular matters one must focus on what can distinguish one memory from another, namely, the qualities that constitute "place," for only these serve to locate a memory uniquely in the mind so that it can again be "found" (invented).

The human mind knows most readily those things that are both orderly and distinct from one another, for "such things are more strongly imprinted in it and more strongly affect it." The two qualities Albertus emphasizes are *solemnis* and rarus—"orderly" and "spaced apart" from one another (Carruthers, *Book of Memory,* 277). These are not actual properties, but are *imagined* to be so. Albertus understood that mnemonic places are entirely pragmatic; they are cognitive schemata rather than objects. They may entail likenesses of existing things (a wing, a tower, a garden) but they are not themselves real. They should be thought of as fictive devices that *the mind itself makes* for remembering.

These mental "places" are associatively related to some content, "through analogy and transference and metaphor, as for example, for 'joy' the most similar 'place' is a cloister-garth (*pratum),* and for 'feebleness' an infirmary *(infirmaria)* or hospice *(hospitalis),* and for 'justice' a courtroom *(consistorium)"* (Carruthers, *Book of Memory,* 277). Thus what we would call an allegorical connection, and seek to attach to some real content (even though the "reality" in this case is conceptual rather than material) is understood here by Albertus as primarily a convenience, made necessary by the epistemological condition that no human being can have direct knowledge of any "thing." All human knowledge, it was thought, depends on memory, and so it is all retained in images, fictions gathered into several mental "places" and regrouped in new places as the thinking mind draws them together.

Emotion and Memory

Memories themselves are *affects* in the soul and mind. In ancient philosophy, that property classified memory with the emotions and meant that each memory involves some kind of emotion; each memory is thus to an important degree a physiological, bodily phenomenon. It also meant that there is no such thing as an emotionally detached memory. As understood by the early scholastic philosophers, Aristotle taught also that *every memory is composed of two aspects:* a "likeness" or "image," which is visual in nature *(simulacrum),* and an emotional resonance or coloring *(intentio),* which serves to "hook" a particular memory into one (or perhaps more) of a person's existing networks of experience. *Memory works by association.* Its connections are thus individual and particular, not universal—though they can of course be learned. The logic of memory is essentially "arbitrary," in the Latin sense—dependent on one's experiences (including everything one has learned), desires, and above all will: recollection, like all creative thinking, is thus largely driven by will and desire. As Albertus Magnus and Thomas Aquinas both observed in their commentaries on Aristotle's treatise on memory (Selections 6 and 7), recollective association proceeds by habit, not by necessity. Thus, while the color "white" may remind me of "snow," it may remind you of "milk," and thus send us along entirely different associative pathways with equal claims to be "true." Abstract concepts need to be tagged visually and emotionally as well, in order to hook into recollection effectively. Thus Thomas Bradwardine (ca. 1290–1349) suggests that divine abstractions, such as "the Trinity," be tagged by means of a visual image "of the sort seen painted in churches," and that universal concepts like "bitterness" be marked with an image of someone gagging on a bitter substance (Selection 9).

Memory Delights in Brevity

The emotion most associated with memory is pleasure. "The little cell that remembers is a little cell of delights," wrote Geoffrey of Vinsauf (l. 1971). It is easily bored and tired: therefore it delights in "brevity" and requires to be fed in moderate amounts at each sitting, for it readily becomes sated and thus unable to function well. To counter this limitation of human memory, common advice was to store experiences away, not only in short segments but also as summaries of the sort that can be expanded (or not) on other occasions, as one chose. Each segment may be limited in practice to "seven plus or minus two" items, but one can store up in the treasury of one's memory either brass pennies or gold nobles—that is, either "knowledge-poor" or "knowledge-rich" units. In mnemotechnic, *brevitas* refers to the creating of such "rich" if necessarily "brief" units.

Because there is in principle no limit on the number of *divisiones* a person may have in memory, readers could be encouraged to make "brief and compendious" summaries of materials they had learned.

Two Kinds of *Memoria:* "Memory for Things" and "Memory for Words"

Ancient rhetorical textbooks recognized two kinds of remembering, differentiated as *memoria verborum* (or *verbatim* or *verbaliter* or *ad verbum)* and *memoria rerum* (or *summatim* or *sententialiter* or *ad res). Memoria verborum* is remembering every word of a segment of text by associating each syllable with a particular visual cue: a good example of this is the theme sentence discussed by Thomas Bradwardine (Selection 9). Such techniques are a form of wordgames and charades puzzles; they are described in an early fourth-century B.C.E. text of sophistic fragments called *Dissoi logoi* (literally "Double Arguments," a Greek *Sic et non),* where one is advised to make rebus-like associations to remember names and unfamiliar or difficult words. Thus to remember the name "Pyrilampes" one may associate each syllable with an image, for example, a fire (*pyr)* and something shining *(lampein).*[5]

It is crucial to note, however, that such image-cued, syllable-based memorization, albeit always mentioned, is not commended in rhetorical arts of memory except as a practice exercise. It was always advised in connection with "fixing" one's memory for particularly difficult or unusual words. The Roman educator Quintilian, who made scornful general comments about the practice of *memoria verborum,* nonetheless advised that a student mentally "mark" passages that were especially hard or important to remember, probably with some sort of image.

Ancient and medieval education proceeded as a set of steps and "paths," and these were carefully delineated. Thus we should distinguish between the kind of memory work that was done at the most elementary stage and that done later. *Memoria verborum* is a term found in the pedagogy of rhetoric; in contrast, "learning by heart" in ancient grammar was called *recitatio,* "recitation" (as indeed it still is). This different terminology suggests that the exercise of *memoria verborum* described in rhetoric texts was *not* thought of as an ordinary technique for the routine memorization of texts that every school-child and novice practiced daily. A child began "laying away" texts in memory from the moment he or she began to learn the alphabet. This produced the habituated memorization "by heart" described at length in Hugh of St. Victor's method for remembering the entire book of Psalms (Selection 1). That method counsels using a simple number scheme for separating and then recomposing the segments of

scriptural text, but no elaborate visual cues are used to recall the syllables and individual words.

One should think of this kind of memory work, the work of reciting by heart texts from the Poets or from the Bible, as a kind of grammatical *memoria,* the painstaking, concentrated memorization that was needed adequately to "furnish" an educated, creative mind and provide it with a rich inventory from which to invent new compositions. By contrast, the use of techniques like "syllable images" for rhetorical *memoria verborum* is counseled (by Thomas Bradwardine, for example) for recalling particularly hard words and words in foreign languages and for remembering verbatim the thematic statement or text *(oratio)* for a sermon.

Memoria rerum, much the more generally useful technique in rhetorical *memoria,* consists in remembering the chief subject matters of a sermon (for example) by associating each one with a summary image. An excellent example of this technique is the six-winged seraph (Selection 4). A sermon could readily be composed using the five subject matters written *summatim* on the five feathers of one wing, expanded as a particular preacher might choose. Indeed, that particular "picture" offers an excellent summary of the subject of penance, and—if a person chose to expand each "feather" into a full sermon or other meditation—sets forth subjects for as many as thirty compositions (five feathers, six wings) in a compactly memorable scheme. No doubt this helps account for the immense popularity of this figure in homiletic literature. The "seraph" is found, though without any writing on its feathers, in the margin of a nonclerical book, a songbook of troubadour poems made in the late thirteenth century (Chansonnier N, New York, Pierpont Morgan Library MS M 819). The late fifteenth-century blockbook in Selection 12 presents summary images of each chapter of the Gospels; printed in a small, portable format, it could be carried about easily by preachers, in their pockets and in their heads, and used as needed to recollect various matters and events contained in each chapter as subjects *(res)* for composing sermons.

Memory and the Visual

It should be clear by now that memories were thought to be carried in intense images *(intentio + simulacrum),* and that indeed memory depended on imagination, the image-making power of the soul. While commending the value of the other four senses as a means of giving additional "color" to memory images, all writers on the subject single out the visual sense as the easiest to recollect, the most secure for the memory work of composition.

A simple experiment will demonstrate the power of visualization in

performing the essential compositional tasks of shuffling and recombining. Recite to yourself a short piece of written text: a single line of verse, a brief sentence (the first verse of Psalm 1, for example). Having slowly done so, now recite the same verse backward. In order to recite the words backward most people must first plainly "see" them in their mind's eye, and then they can readily "read" them off in reverse order. Next, whistle a short phrase from a tune (perhaps "London Bridge Is Falling Down"). Now whistle the tones in reverse order. Most people cannot do this at all, unless they find a way to "see" the notes *in relation to one another—that* is, as a pattern. For example, if one were to assign the notes of the phrase to the joints of one's fingers (to use a ready device), one could see each as a separate place on one's hand, and so easily "read" their original order backward. This is the principle of the Guidonian hand, a device frequently drawn in manuscripts (and even painted on chantry walls) that was used in monasteries to teach melodies from at least the eleventh century on. It is described at length in Selection 3. For numerical computation, even of a complex sort, hands had always been the tool of choice, computation being carried out positionally (as it must be), using the hand almost as an abacus.

Only by such "seeing" can a *whole* design be kept in mind from start to finish, its main matters and submatters all *arranged.* The whole picture allows digressions and details to be developed as delightfully and copiously as one might wish, for one cannot "go into detail" until one sees the whole within which the details are related—this is essential for mental composition.

And the design needs to be seen as a whole. The ability to "read" while continuously scrolling a text in one's mind seems not to be a common human trait; indeed, it is noteworthy that in the ancient Mediterranean cultures, in which books were written on scrolls, all the advice concerning the craft of memory begins with making a pagelike shape, a "tablet" or a "seat," to serve as a basic location. The assumption, based probably on observation, was that we can find what we need most readily in pictures, structures of images related as "scenes" that present themselves to us within separately formed "places." The various pictures of the Evangelists in the blockbook for preachers (Selection 12) are a fine example of this principle. Each picture is a blazon, like a heraldic shield, painted with images that clue one or two subjects in each Gospel chapter in order.

A Single Gaze of the Mind's Eye

In extent (as all the books on memory advise), no picture should exceed what can be seen and kept in mind in a single "look" or *conspectus* of the mind's eye. In medieval texts, it is described as the

size and shape of a single page; in both classical and medieval texts, it is also described as the size of a waxed tablet, such as those children wrote on in school, and those that were commonly used throughout one's lifetime for notes, memoranda, and sketches of all sorts. It is also sometimes described as the size of a room of moderate size, or a small garden or orchard. Onto (or within) these various spaces, memory images could be "written," as in a book, or arranged in "scenes," like those in a theater. These spaces should not be too small either, lest the mind's eye have difficulty seeing clearly and readily what is in them.

It is worth emphasizing that the memory *conspectus,* or gaze, is fundamentally a spatial concept. "Brief" and "short" are to us ambiguous words, for they may refer to time as well as space, and the concept of "short-term memory" is a familiar one in modern psychology. But *brevis* in the Middle Ages did not mean "short-term" in time, as short-term memories are said to disappear after a few moments unless they are somehow marked for long-term storage. While the psychological phenomenon of "seven plus or minus two" can certainly be observed to apply to ancient and medieval mnemotechnic (Seven Deadly Sins, Seven Wonders of the World, Seven Penitential Psalms), medieval teachers explained the phenomenon differently than we do. For them that number represents the spatial limits of the *conspectus,* not of how long in time one can keep matters in short-term storage. Their basic assumption, that recollection is about recovering a number of previously stored images from mental places, differs greatly from ours, that recollection is about recovering previously stored memories over time.

As on a stage or in a picture, the memory images need to be made so that they can be distinctly and clearly seen and thus "read" securely. Thus, though some images may be repeated from one picture to another, the same image cannot appear more than once in a single picture—the 1470 blockbook (Selection 12) provides excellent instances of this principle. The images must obviously be made "memorable," and humans remember well what is distinctive, not what they do and see every day. The ordinary must be distinctively "marked," or it will not readily be "found." So either the images are emotionally heightened (bloody, violent, monstrous, titillating, awe-inspiring, pathetic) or everyday images are put into unexpected contexts (as Thomas Brad-wardine recommends putting the face of somebody you know well into a chain of otherwise unrelated images). The results are deliberately grotesque and fanciful, in a manner we now consider characteristic of medieval aesthetic. Playfulness is basic to the memory work of creative composition. Thus puns and rebuses abound in these texts, and words and images are often deliberately cut off from their ordinary contexts in order to provoke new thought and

to put the mind "in play."

Memory images must also be clear and "well-lighted" so that the mind's eye can perceive them without trouble. A good example of this is the way in which the seraph's second wing is reversed at the wrist (Selection 4), drawn so that the five pinions that have texts written on them can be easily read—indeed the drawing appears grotesque because of this feature. If the seraph's second wing bent naturally at the wrist and folded under the first wing, a viewer could not see what was written on those feathers—they would be hidden and illegible behind the other wing. Clarity (in Latin *clarus* refers to both good lighting and intelligibility) takes precedence over naturalism in this drawing. Similarly, in the succession of drawings that make up the "ars memorandi" (Selection 12), the images for each of the Gospel chapters are drawn flat on the background figure instead of related harmoniously into a single composition. As a result, each stands out clearly and starkly to the mental eye of the beholder—a virtue when one might wish quickly and securely to "find" a particular matter in mid-sermon.

Memoria in the Trivium

Memoria as both memorization and recollection was practiced in all aspects of the ancient trivium and continued to be cultivated throughout the Middle Ages. Though those who wrote about ancient education did not themselves draw this distinction, it may be useful for modern students, who are accustomed to a far more straitened and impoverished concept of memory's role in thought, to distinguish the various activities of grammatical memory (verbatim memorization), rhetorical memory (recollection, often by arresting images, as a tool of composition), and dialectical memory (analytical reasoning from "the topics of argument"). For *memoria* was taught as a significant model and component of dialectic too. Though more attention has been given to the revival of rhetorical *memoria* in the later Middle Ages, an equally significant aspect of Albertus Magnus's contribution to medieval memory craft is his emphasis on recollection as a form of reasoning (investigation) from logically related topics. He specifically distinguished this kind of recollective reasoning, based on categories and relationships derived from the nature and organization of the subject matter being investigated (what we might recognize as an early form of scientific logic), from the more playful, personal, and affective recollective composition of rhetoric that proceeds by habitual associations formed on principles like those that govern similes and metaphors.

The link between argumentation by topics and the art of memory was made by Aristotle, both in his logical work *Topics* and in his

treatise *De memoria et reminiscentia (On Memory and Recollection)*. The Greek word *topoi* originally meant "places" or "spots": indeed the famous story that Simonides (ca. 556–468 B.C.E.), using the principles of mnemotechnic, was able to identify the crushed remains of the banqueters by the "seats" each had occupied at table captures this distinctive model for mnemonic craft. The "topics of argument" became the basis of instruction in dialectic and elementary reasoning. Cicero also wrote a treatise on *Topica*; it deals with the "topics of argument" as a matter of dialectic and rhetoric, rather than of syllogistic logic per se. This and Aristotle's work were famously commented on by Boethius in works that were widely studied in the earlier medieval schools. Thus the link between the concept of logical *topica* and the organized "seats" and "places" necessary to memory work was familiar when, in the mid-thirteenth century, Albertus Magnus came to comment directly on Aristotle's *Parva naturalia,* including the treatise *On Memory and Recollection* (Selection 6).

These three aspects of practical pedagogical memoria—grammatical, dialectical, rhetorical—should not be conceived of as separate or as "higher" and "lower" uses of mnemonic powers. Basic to the model of the trivium is its root meaning, "a place where three roads meet." The order of study in Roman and medieval schools was grammar, dialectic, and rhetoric, but each new subject continued to build on the knowledge and skill developed in previous study. Neither creative composition nor basic analysis and argumentation could long proceed without the fundamental structures and materials a student made by memorizing the core texts and stories, *dicta et facta memorabilia.* In turn, rhetoric built on both this memorized knowledge and the reasoning skill developed in dialectic through the topics of argument.

Memoria in the Quadrivium

The techniques of memory-craft were also fundamental in the various subjects of the quadrivium, the four subjects (arithmetic, geometry, music, and astronomy) that, among them, denominated the domain of number and measure as the trivium did that of language. As one can usefully speak of the ways in which grammar, dialectic, and rhetoric variously draw on functions of *memoria,* so one can also speak of arithmetical, geometric, cosmological, and musical memory, as memory-craft was brought to bear within the subject matters and procedures of these four arts.

In the selections in this anthology, one can certainly perceive an elementary "arithmetical memory" at work, for not only is the order of numbers a fundamental schematic, often imposed on texts as a device for rote memorization, but larger numbers needed to be

analyzed and "grouped" into units that fit within the limits of memorial *conspectus,* as in Hugh of St. Victor's advice on how to memorize the Psalms (Selection I). Students were taught to break down a large collection of items into groups of fives or tens, threes and fours, and so on, and to mark them mentally with appropriate numerical addresses. Then, in recollecting, invention became a kind of calculating play, as "chunks" of recollected matters were mentally manipulated and shuffled about by means of the mnemonic addresses they had been given. And while genius and talent were always given their due, inspiration tended to visit minds that had been prepared to receive it.

Memory-craft was a major feature of teaching music, which included poetic meter. We have included an account of the Guidonian Hand (Selection 3), used to record and manipulate (literally) a system of musical notation. The late twelfth-century bishop of Chartres, John of Salisbury (ca. 1115–1180), comments in his *Metalogicon* (Book 1. 20) that musical *notae* are "highly effective for comprehension and retention," and that singers can indicate in a few written notes a great many variations of *voces,* tones. These marks, he says, are thus rightly called *musicae claves,* the keys of music. As for meter, the mnemonic effectiveness of rhythm and rhyme was exploited throughout ancient and medieval pedagogy and oratory, as a device aiding both retention and comprehension, by oneself and one's audience.

Astronomy too had its mnemotechnical aspect, not just because maps and charts provided a large store of organizing schemata for whatever variety of matters one might choose to place within them, but because of the long association of cosmology with invention. Schemes like the Six Days of Creation in Genesis or the angelic circles that had been elaborated through centuries of commentary were adopted, in whole or in part, as devices for inventive meditation, *memoria* in the monastic sense. The constellations of the Zodiac serve as an elementary exercise in making mnemonic images in Thomas Bradwar-dine's artificial memory advice (Selection 9), and a map and several different cosmological diagrams, including the Zodiac, the Six Days, and the angelic circles, are to be painted mentally as part of the equipment of Hugh of St. Victor's encyclopedic Ark picture (Selection 2).

Finally, and as fundamentally as there is a numerical memory and a dialectical memory, there is a geometry of memory too. Almost every monastic mnemotechnical scheme—ladders, roses, buildings, maps—was based on geometrical figures: squares, rectangles, triangles, circles, and complex reformations of these, including three-dimensional structures (like the Ark in Selection 2). The complex Ark described by Hugh of St. Victor begins with instructions to draw a

rectangle mentally, and then to trisect it (Hugh does suggest that one might need some physical support for this phase of making the Ark structure, such as sand or parchment and a compass).

In *On Memory and Recollection,* Aristotle had discussed an alphabetical scheme of memory places, with which one could readily learn to "calculate" remembered materials; he also discussed at some length how one needed to have an image of a triangle in one's mind in order to understand the abstract concept of "triangularity" and how, to understand both relative size and relative length of time, one needed to be able to compare in one's mind memory images of similar objects. Perhaps under this stimulus, academic arts of memory composed in the late Middle Ages sometimes included an elaborate scheme for finding and recombining one's topics that uses letters placed on concentric squares or circles, within which lines (triangles and squares) are drawn joining the letters in a variety of ways. We have included detailed discussions of this sort by Thomas Aquinas (Selection 7) and Jacobus Publicius (fl. 1460–70; see Selection II). Boncompagno da Signa (ca. 1170–after 1240) also discusses manipulating a square for memory purposes (Selection 5). These figures were to be manipulated mentally in order to make new connections among subject matters; such diagrams in some late manuscripts and early printed books included movable dials and pointers. Though the instructions for using them are often difficult, and are written in a Latin style that makes our computer manuals seem models of comprehensiveness and graceful lucidity, they clearly were intended to provide a kind of machine for invention, both an architecture and an engineering of memory that required some knowledge of basic geometry to comprehend them.

Perhaps such mnemotechnical applications of geometry help to explain an otherwise obscure comment by Hugh of St. Victor, who defined one aspect of geometry in the quadrivium as being "fons sensuum et origo dictionis" (the source of [our] perceptions and the origin of [our] speech; *Didascalicon* 2.16). Hugh, tellingly, has applied Cassiodorus's definition of the dialectical *topica* to geometry here, in an intellectual move that grounds our very comprehension and ability to articulate our world in the "geometry" of recollection. But the man who devised the mental game of planning Noah's Ark (Selection 2) as an elaborate encyclopedia of his learning—diagram upon diagram, moving constantly in three and even four dimensions (for time is an aspect of it too)—did indeed think geometrically, and in fact wrote an academic, or "speculative," geometry text.

Mnemotechnic in the Classical and Monastic Traditions

Classical traditions of memory and memorization were diminished

but by no means lost in the transitional period known as late antiquity. As a result, formal mnemotechnics survived in the Middle Ages in both theory and practice. As we have seen, memory training played an important role in all aspects of schooling and exercised major effects on the production and reception of texts—and the manuscripts in which the texts were conveyed. But classical traditions, such as those described by the *auctor ad Herennium,* were supplemented and even supplanted by the mnemotechnical practices of monastic meditation.

In antiquity the origin of formal mnemotechnics was traditionally traced to a specific episode in the life of Simonides, the pre-Socratic Greek lyric and elegiac poet from Ceos, whom we have mentioned earlier. According to this tradition, Simonides was summoned from a banquet when an earthquake caused the roof of the banquet hall to collapse. Through his memory of the places where his host and fellow guests had been sitting, Simonides, the sole survivor, was able to fill the quasi-forensic function of reconstructing an accident scene by identifying the mangled corpses for the relatives of the deceased. In a very influential account of the episode, Cicero (106–43 B.C.E.) claims:

> that Simonides was enabled by his recollection of the place in which each of them had been reclining at table to identify them for separate interment; and that this circumstance suggested to him the discovery of the truth that the best aid to clearness of memory consists in orderly arrangement. He inferred that persons desiring to train this faculty must select localities and form mental images of the facts they wish to remember and store those images in the localities, with the result that the arrangement of the localities will preserve the order of the facts, and the images of the facts will designate the facts themselves, and we shall employ the localities and images respectively as a wax writing tablet and the letters written on it. (Cicero, *De oratore* 2.86.353–54)

Cicero's account is significant in appropriating what would appear to be a solely oral event as the justification for a highly bookish image to describe a system of visualizing that would be useful in the oral delivery of speeches. Long before the Middle Ages, the visual and the verbal as well as the oral and the literate were intertwined in the evolution and transmission of memory techniques. Indeed, metaphors that compare the impression of memory images on mental "places" with writing on a wax tablet appear in all three principal ancient sources for artificial memory.

Training in memory arts was well suited to the academic orality that prevailed as well in medieval schools and universities. Much education took place in speech—in questions and answers, recitations by rote, and not-so-silent readings that help explain why such varied words as *lesson, lection,* and *lecture* all derive from the Latin verb meaning "to read"—but much of the speaking was directed toward a

goal of impressing written words on the speakers and listeners, and so the relationship between the spoken and the written was strongly reciprocal.

The Simonidean explanation for the creation of a formal mnemotechnics reached the Latin West through several intermediaries. First came classical sources, such as Cicero's *De oratore* (finished in 55 B.C.E.) and Quintilian's (ca. 35-100 C.E.) *Institutio oratoria,* although neither of these texts circulated extensively in complete copies in the Middle Ages. Second was the three-book treatise on rhetoric by Consultus Fortunatianus (see Appendix), a rhetorician who probably lived in the fourth century. In contrast to the classical works on which it drew, this treatise exerted a strong influence in the early Middle Ages, to judge by the number of surviving early medieval manuscripts. Third, and most important of all, was *De nuptiis Philologiae et Mercurii (The Marriage of Philology and Mercury),* a compendium of the liberal arts produced in the first quarter of the fifth century by Martianus Capella. Drawing extensively on the work of Quintilian and Fortunatianus, Martianus presents memory as the fourth of the five parts of rhetoric, giving a concise account of an artificial memory and its techniques.

Like Cicero before them, both Fortunatianus and Martianus Capella credit Simonides with having originated a technique for remembering —a formal mnemonics. But the techniques both recommend derive more particularly from Quintilian: mastering long texts by dividing them into small sections, copying them out and annotating them, reciting them quietly, and working at night when there are no distractions. Both distinguish between memory for things and memory for words, but Martianus Capella devotes considerably more space to describing memory by means of images than does Fortunatianus.

As important as this story and the detailed description of memory techniques in the *Ad Herennium* are to us now, we must always remember that medieval writers did not share our knowledge of or reverence for them. Not all information about the different techniques of ancient mnemonics came from the texts that described the achievement of Simonides after the tragic accident that befell his fellow dinner-guests. Nor were the sources of mnemotechnical knowledge restricted to ancient philosophy or rhetoric. The translated Greek texts of Aristotle's *On the Soul* and the little treatises that accompanied it (including *On Memory and Recollection)* were extensively known in the Latin West only after the twelfth century. Well known was Aristotle's basic logical work, including his *Topics,* which had been extensively commented on by Boethius (ca. 480–ca. 526). It is largely through this tradition that the notion of organizing material in mental "seats" or "topics" became familiar to the Middle

Ages. The classical traditions of rhetoric were known primarily through the teachers of late antiquity, among them Martianus Capella, Fortunatianus, and especially Augustine. Only Cicero's *De inventione* was well known, mediated through an extensive commentary by Marius Victorinus (fl. mid-fourth century), a teacher of rhetoric with a strong Neoplatonist bent.

Early medieval rhetoric emphasized the analysis of arguments by "causes" and distinguished the tropes and figures of ancient rhetorical style in the writings of the Bible, but as a discipline rhetoric was mostly a matter for academic lecture. Before the late eleventh century, the *Rhetorica ad Herennium* remained known only sporadically, as it had been throughout later antiquity.[6] Indeed, before the fourteenth century, its memory advice was treated with great skepticism by writers of independent rhetorical treatises, such as Geoffrey of Vinsauf (composed ca. 1205), Boncompagno da Signa (1235), and John of Garland (ca. 1230), who ignored, belittled, or paid only token respect to the memory techniques that they read about in ancient sources. The techniques they commend come instead from the monastic traditions of *memoria* as the prayerful, ruminative contemplation of biblical texts.

It is important to understand that *memoria* in monastic meditational practice is not simply a variant of ancient mnemonic teachings applied to the situation of meditation. *Mnēmē theou,* or, as it was called in Latin, *memoria spiritalis,* has a more complex cultural matrix, though the basic Greco-Roman education in rhetoric, which all the church fathers shared, was certainly an essential component, as Augustine, Basil, Jerome, Cassiodorus, and John Cassian all made clear. But the mnemotechnic of the early monks owed as much to various oriental mysticisms, including preeminently the ruminative study of the Hebrew Bible and the meditational disciplines that developed in Judaism, involving visionary contemplation of the Tabernacle and Temple, the Throne-Chariot, and Paradise. Though many elements are parallel, such as reliance on vivid mental picturing, the use of an architectural or similar structure to organize matters, a ruminative approach to reading, even predilections for meditating at night in silence and composing in bed, one cannot simply apply the vocabulary for mnemotechnic developed in the schools of Cicero to the medieval situation. The ancient vocabulary had to be reintroduced and resignified by scholars of the thirteenth-century Aristotelian revival, such as Albertus Magnus and Thomas Aquinas, in the context of a highly developed traditional monastic practice that was in many ways close to but yet did not really fit the ancient categories.

The evidence suggests that from the sixth through the early twelfth century—loosely speaking, during the entire "pre-Gothic" period—

most memorizing followed the monastic mode of rumination *(ruminatio),* based firmly on verbatim recall rather than mere recollection of content. Memory remained just as important in the pre-Gothic period as it had been in antiquity or would be in the later Middle Ages and Renaissance, but it was memory of a different scope and with a different goal. Many of the metaphors that characterized memory remained the same in early medieval literature as in ancient times—memory was a store-house or treasure-house, wax-tablet, belly, book chest, chest, heart, or mirror—but gone were the frameworks for memory that ancient writers on memory had advanced. Thus the domestic and familiar spaces of a Roman house, the type of architecture most commended for memory work by ancient writers, were replaced by divine structures derived from descriptions in the Bible, such as the Ark, the Tabernacle, the Temple, the Heavenly City, the map of the world, the cosmos itself. These could be even more elaborate than the architectural schemes of antiquity, but they were also decidedly more bookish and more fantastical, "fantasy" being another name for the image-making ability of the mind.

Besides the evident effect of monastic reading practices on the understanding and use of mnemonic craft, the changed linguistic situation of the early Middle Ages had profoundly affected the way people learned to read and thus were taught to memorize. Not only was it keenly apparent to Germanic-speaking monks that Latin was "foreign," but increasingly speakers of the Romance dialects that became Spanish, French, Catalan, and Italian were unable to comprehend the Latin of the Bible and the church fathers. As a consequence, the parts of schooling that were classified as "grammar" required more and more time from students and teachers alike. This branch of the verbal arts rested especially, as we have seen, on word-for-word memorization of texts, especially biblical texts such as the Psalms and poetry with moral meaning. For those pupils privileged to receive a basic education, the first order of business was to learn grammar, and in the grammar schools teachers beat grammar into students by having them learn great authors by heart. It should be noted that beating was a constant aspect of education in ancient schools as well, for physical methods were thought to ensure that knowledge was securely impressed into the memories of schoolchildren.

The main educational milieu in the early Middle Ages was the monastic school, which stressed memorization and close rumination on texts as a devotional practice and as a means of spiritual improvement. Fortunatianus professed the belief that it is a flaw *(vitiosum)* not to remember properly. In a monastic context forgetting was not a mere peccadillo but a full-fledged vice *(vitium)*. For a

Christian to forget was one way to end up offending God and suffering oblivion as a consequence. Despite the biblical admonition that "the letter killeth," forgetting important words was judged to be one of the greatest dangers that an individual could face. In the Gospels the book of John opens with the words "In the beginning was the Word, and the Word was with God, and the Word was God." These words are often depicted as passing to the page indirectly, from the beak of the inspiriting dove into the ear of the Gospel writer as he sits writing with stylus or pen in hand; this image characterizes the transitional nature of medieval culture, in which the oral and the written relied on each other in incessant, essential exchanges. In the mind that governed the eye, ear, mouth, and hand, memory played an indispensable—maybe even *the* indispensable—role.

Later in the Middle Ages memory lost none of its urgency, but what was considered essential to remember took on somewhat different contours. Christians in hope of salvation had always needed to imprint upon their memories elaborate schemes of images of virtues and vices in order to arrive at heaven and avoid slipping into hell. Major religious reform movements of the twelfth century extended the obligation to confess frequently and to receive communion to lay people as well as to monks and clergy, reforms culminating in the foundation of new preaching orders, such as the friars and regular canons, and in the reforms of the Fourth Lateran Council of 1215 enjoining the laity to participate actively in the spiritual life of the Church. Thus in the later Middle Ages, as the greater need and occasions for preaching revived oral rhetoric (as homiletic rather than forensic), and as more lay people (perhaps especially women) became increasingly involved in a life of prayer within their own households, medieval versions of the ancient arts of rhetorical memory came to be written again. Schemes of the virtues and vices were perhaps the commonest material of all for pious meditation, particularly in the exercise known as "the examination of conscience." The importance of recalling the virtues and vices helps to explain the presence in this anthology of *On the Six Wings of the Seraph,* ascribed to Alan of Lille, and *A Little Book About Constructing Noah's Ark,* by Hugh of St. Victor. Both treatises are designed to be visualized in such a way as to be imprinted on the memory, and both describe in words imagery that the reader is meant to see, whether in an actual accompanying illustration or in the mind's eye. Meditation on the virtues and vices also underlies the elaborate diagram of the "Tower of Wisdom," displayed in this anthology (Selection 10), and several diagrams like it, including "The Knight Against the Vices" (Evans, "Illustrated Fragment") and the complete set of meditational diagrams, which includes both the "Tower of Wisdom" and a version of the "Seraph"

(by then, confusingly, called the "Cherub"), which was composed in the early fourteenth century by the friar John of Metz and given the title *The Mirror of Theology* (Sandler, *Psalter).* By the sixteenth century, the penitential "examination of conscience" had become such a common application for mnemotechnic that some works from this period called *ars memorativa* are devoted solely to it.

Imagination and innovativeness are the qualities of mind most valued in our day, but in the Middle Ages memory was prized above most or even all other capacities of mind. Imagination and innovation were certainly valued also in the Middle Ages, but as aspects of memory, the faculty regarded as prior to both, and an essential aspect of understanding. As has been demonstrated elsewhere (Carruthers, *Craft of Thought,* 7–35), the etymologically related conceptions of inventing and inventorying were not seen to be antithetical: anyone who expected to make a contribution—what might be called in today's terms an "original" contribution—was expected to do so not only with an awareness but even with the inclusion of major elements from his predecessors.

The number of texts being read was much more limited than would later become the case, and almost all of them were "authoritative" in the sense that they were read because their authors were especially revered. In an era when one of the best ways to support a contention or point of view was to cite the words of an authority, quoting accurately was important. The mechanism for attaining the desired knowledge of the principal authors was to read them and reread them —in medieval terminology, to "ruminate" on them. Although rumination refers literally to the chewing of the cud by ruminants such as cows, such regurgitation carried none of the stigma of mindlessness in the early Middle Ages that it often bears nowadays. For readers to digest their texts was not a shameful or pointless prelude to spitting out facts. Rather, it was a creative process of making another's words one's one through the repeated physical act of saying them aloud and the concomitant mental act of meditating on them. The goal was memory, which (in a trope that became a monastic commonplace) Augustine had called *venter animi,* "the stomach of the mind" *(Confessions* 10.14.21).

Word-for-word memorization continued to be valued after Latin translations of Greek philosophy became available and after the rhetorical writings of Quintilian, Cicero, and pseudo-Cicero began to circulate more broadly from the twelfth century on, but it was supplemented by a heightened awareness of both classical mnemotechnic systems and previously unknown philosophical views on memory. Two commentaries written by Dominicans—Albertus Magnus and Thomas Aquinas—synthesized the new philosophy and

classical rhetoric. Their commentaries on Aristotle's treatise *On Memory and Recollection* not only mediated the teachings of Aristotle on memory but also helped to guarantee the prestige that the "Ciceronian" method acquired in the later Middle Ages.

About This Anthology

The selections in this book represent nearly three and a half centuries of late medieval thought and practice about *memoria,* from about 1135 to about 1470. They were disseminated in a variety of ways, oral and written: as manuscript treatises, as lectures, as sermons or colloquies, as drawings, as printed books. Often they circulated in both ways, starting out in an orally delivered form and at some point being revised for a written or other material form. In either case, reading continued commonly to be experienced as reading aloud, so that even thoroughly written, "literate" works were often received aurally. Silent reading, *legere tacite,* was used for meditation and personal prayer, as it had been since antiquity, though even silent reading often had a kind of voice, being conducted in a murmur, *sotto voce.*

Though each selection has its own introduction and a brief bibliography of works in which it is discussed at greater length, it might be well to consider how each one fits into the history of medieval *memoria,* the craft of recollective composition. We begin with two works by the great early twelfth-century teacher Hugh of St. Victor, who died in 1141. The abbey of St. Victor was located in Paris, roughly on the site of what is now the Sorbonne, just across the river Seine from the cathedral of Notre Dame. Hugh wrote entirely within the traditional monastic craft, for neither Aristotle nor the classical texts of teaching rhetoric plays any discernible role in his discussions of *memoria.* The first of his treatises translated here, *The Three Best Memory Aids for Learning History*, is accompanied by a diagram that Hugh himself designed, as he says. It might better have been called "How Best to Memorize the Psalms," for the method Hugh describes to remember the important events in biblical history derives from the common method of "grammatical memory," dividing text into brief segments, memorizing each segment in order, and then linking them together as a chain in an order that makes it possible for one to access it at will and at any point. His *Little Book About Constructing Noah's Ark,* however, is a much more advanced work, describing how to "draw" mentally a complex, multipurpose "picture"—or rather set of pictures—sufficiently great in scope to make an encyclopedia of one's whole education. In a world without many books, and those not always accessible, being able to "lay away" and "gather up" one's education in this way presented a decided advantage. Hugh's "ark" is a fine example of a sophisticated inventorying mechanism,

fundamental to rhetorical *memoria,* the activity of invention.

The twelfth century saw medieval western Europe begin to change from a culture dominated by monastic and dynastic concerns to those of a vernacular-speaking, married, commercial and professional laity. The Church responded to these concerns (and indeed, some have argued, helped create them) with greater emphasis on participation by lay people in the devout life of the institution. During the thirteenth century, this emphasis received one of its major expressions in the vernacular preaching of the orders of friars, especially the Dominicans and Franciscans. But preachers have need of preaching tools; thus the rapid development of the many *artes praedicandi,* which, especially after the middle of the thirteenth century, were one of the commonest forms of rhetorical teaching in medieval Europe. Four of the works presented in this anthology are addressed to the needs of preachers. Though all of them exist now in Latin, we know from a number of contemporary sources that the sermons they presumably helped clergy compose were preached in the vernaculars more often than they were in Latin (though in university circles sermons in Latin were certainly preached, well into the nineteenth century). Their own vernacular remains close to the mental "ears" of these writers. To cite two examples: Thomas Bradwardine puns freely in English and Latin both, and Hugh of St. Victor, one of the most learned of scholars, put a French definite article in front of the Latin nominative plural *loca,* writing "le loca" (William M. Green, "De tribus maximis circumstantiis gestorum," *Speculum* 18[1943]: 484–93, at 491.18).

The earliest of the four preachers' arts is the so-called sermon on the six wings of the seraph, using as the organizing figure the six-winged creature described in Isaiah 6. Ascribed to the late twelfth-century Parisian master Alan of Lille, it became quickly popular as one of the model sermons of his "art of preaching." But it is not a sermon. It is instead an art for preachers needing to invent sermons. It describes how to use sets of five themes on each of six basic subjects, or *res,* all keyed to a memorable organizing "picture." Only the first of these themes is developed as an actual sermon might be, evidently to serve as a model. The work as a whole provides a fine example of *memoria rerum* and is related, through centuries of (mostly orally disseminated) classroom tradition, to the picture-like example of the technique of *memoria rerum* used in a courtroom setting, which is described at the beginning of the first century B.C.E. in the *Rhetorica ad Herennium* (3.20.33).

The other three examples of a memory-craft for preachers were composed somewhat later, well after the twelfth-century revolution in learning in the universities and its much wider dissemination to a lay public, largely through the preaching efforts of the friars. Thomas

Bradwardine's art of *memoria* dates from about 1333–34 and was probably composed while he was associated with the active household of Richard de Bury, Bishop of Durham, considered then to be the most intellectually vigorous and cosmopolitan in England. Though not himself a friar, Bradwardine became a famous theologian and preacher, a chaplain to the king, and finally archbishop of Canterbury. The method he demonstrates is suited to the genre of the "theme sermon," associated especially with later medieval preaching in the vernacular by friars and "secular" clerics (that is, clerics who were not cloistered).

Francesc Eiximenis was a Franciscan friar from Catalonia, most of whose work now known to us dates from the twenty years between 1390 and 1409. He also had extensive university training, obtaining a theology degree in 1374 from Toulouse. He spent his career mostly in the southeastern Spanish city of Valencia, where he was a member of the convent and active, as friars were, in various public affairs. Many of his books were written in the vernacular, all with the goal of enhancing the devotional life of lay people. But his art of preaching, addressed to a Europe-wide audience of preachers is, like Bradwardine's, in Latin. Finally, there is the book of fifteen woodblock pictures and brief summaries of each chapter in the four Gospels, made (probably in Germany) about 1470. All four of these practical arts emphasize the visual in their presentations of various techniques for rhetorical memoria—indeed, they make clear that, for the task of composing in words, it was essential to be able to "see" what one was doing by means of "pictures" that could organize and structure one's thoughts.

A particularly interesting expression of the craft of memory is the socalled *pictura,* a word applied both to diagrams and to maps. It completely mixes words with images in a single large-format construction painted either on parchment or on a wall. It is related to the mental imaging techniques that were part of both *ars praedicandi* and *ars orandi,* the art of meditative prayer developed over the centuries by monastic clergy. The large meditational picture discussed in this anthology, called *turris sapientiae* or "tower of wisdom," represents a well-known genre of encyclopedic *picturae,* often (though not always) developed by friars for their own pastoral and preaching duties. These commonly involved serving as chaplains and confessors in the households of wealthy and/or aristocratic families. Such pictures, painted on parchment, were intended to help both confessor and lay penitent in their devotions and spiritual growth as they considered, again and again, the ethical and divine themes contained so richly in the mnemonically "brief" units of the familiar structure.

Although our anthology is a collection of words and pictures and

unfortunately does not record sounds, no treatment of memory in the Middle Ages would be complete without attention to music. One legacy of the Middle Ages is the modern system of musical notation, which originated out of an express desire to avoid overtaxing the memories of singers and which from the very beginning was taught in accordance with mnemonic principles and set forth in both texts and images. It is thus a particularly important instance of the medieval crafts of memory. The word *nota* refers not only to mnemonic markers of all sorts—like the ubiquitous *nota bene* injunction written in manuscript margins, and to all the various little images and mini-diagrams referred to generically as *notulae* in medieval writing about memory—but specifically to musical *notae,* which (Guido wrote in a letter to a fellow monk) are like the letters of an alphabet, for they enable us to hear and remember the voices and words *(voces)* of those who are not actually present, even the sounds of melodies we have never heard. Modern scholars often emphasize the visual richness of the medieval arts, but they were equally auditory. Words were heard as well as seen—and voices, as words, were seen as well as heard.

Finally, we have included four examples of memory-crafts produced within the setting of a university. The earliest and latest of these, those of Boncompagno da Signa (1235) and Jacobus Publicius (ca. 1460), were composed as part of their respective textbooks on rhetoric. Boncompagno was a professor of rhetoric at Bologna, the oldest European university and one always closely associated with the teaching of Roman and canon law. Jacobus Publicius (also surnamed Rufus), so far as we know, was a humanist scholar who claimed to be from Florence but was actually a Spaniard. He had an itinerant career as a professor of rhetoric and self-styled poet laureate, teaching in universities throughout the diverse lands of fifteenth-century Burgundy. His compendious works on rhetoric circulated widely in the later fifteenth century, simultaneously in both manuscript and print. Jacobus's art of memory circulated separately as well: the version translated here is the second edition of two printed in Venice by a German printer, Erhard Ratdolt, in 1482 and 1485 (Ratdolt reprinted the second edition in 1490 in Munich).

Composed between these two university-style texts on rhetorical *memoria* are the two important commentaries on Aristotle's treatise *On Memory and Recollection,* produced by the Dominican friar Albertus Magnus and his great pupil Thomas Aquinas. Both men were university teachers of theology and philosophy at Paris. Composed during the twenty years between 1255 and 1275, these two commentaries married the ancient system of rhetorical *memoria* described in the *Rhetorica ad Herennium* with Aristotle, the great authority for philosophy and natural history in the universities. While

the general principles of *memoria* described above are common, in one form or another, to all the technical systems devised both in monastic *memoria* and in the ancient schools, the synthesizing, formalizing, and categorizing habit of mind so characteristic of medieval schoolmen self-consciously drew the ancient and monastic traditions together.

In commenting on Aristotle's teaching about memory and recollection, Albertus Magnus sought to articulate both its practical and its ethical application. He wrote of the ancient description of memory images and places in Book 3 of the *Rhetorica ad Herennium* as a model instance of Aristotle's teaching; a scant generation later, Thomas Aquinas also commended it as the standard among the arts of memory.[7] As can readily be observed from the memory texts presented in this volume, however, the late medieval schemes that use some of the technical vocabulary of the ancient treatise, such as those of Bradwardine or Jacobus Publicius, bear scant resemblance to it either in the actual examples adduced or in the variety of techniques commended. They are medieval in spirit as well as in doctrine. And the most particularly medieval characteristic of these two friars' discussion of *memoria* is their emphasis on well furnished and trained memory as fundamental to the virtue of prudence, the power of making wise ethical judgments. This they took not from the ancients but from the monastic methods of penitential prayer, the "making" of confessions. In ancient rhetoric, *memoria* had to do with fashioning a good speech. In medieval rhetoric, *memoria* had also to do with fashioning a soul.

This anthology is intended to make available important and exciting materials that have not previously been easily accessible, if at all. All the texts are remarkable for their discussion or application of memory and memory techniques, and all were written originally in Latin but have never before been translated into any modern language. The lack of translations has been an impediment to many readers who have grown curious about arts of memory and related topics from perusing such books as Frances Yates's *Art of Memory,* Mary Carruthers's *Book of Memory* or *Craft of Thought,* Lina Bolzoni's *Gallery of Memory,* and Janet Coleman's *Ancient and Medieval Memories,* but who for want of being able to read Latin with ease or for lack of a research library with editions of the texts have had no means of delving into the medieval compositions on which these books build important parts of their arguments. The collection focuses especially on the period from the late twelfth through the fourteenth centuries, but we have included short extracts from two late antique texts that were especially influential in the early Middle Ages.

To conserve space for hitherto-untranslated materials, we have not included works that can readily be obtained in English. Accordingly,

the anthology does not contain the very brief discussions of rhetorical memory in Martianus Capella's *De nuptiis Philologiae et Mercurii (The Marriage of Philology and Mercury),* Geoffrey of Vinsauf's *Poetria nova (New Poetry),* or John of Garland's *Parisiana poetria (Parisian Art of Poetry),* since these works have been published already in English translations. Furthermore, it excludes treatises on memory in vernacular languages such as Italian, which survive from the thirteenth century and later. These treatises deserve attention, but they cannot be understood without a grasp of the Latin traditions on which they rely very heavily. In other words, they cannot be comprehended fully without the materials that are contained in this anthology.

Although over the years a number of anthologies have been printed in which representative texts from the medieval grammatical and rhetorical traditions have been put into English, almost nothing relating specifically to memory has been translated. Many more treatises remain to be translated, but this volume provides a basis that its editors hope is sound, durable, useful—and maybe inspiring and enjoyable as well. No single house style has been imposed on all the translations, which have been prepared by different translators from Latin that varies considerably stylistically; but in general all the translators have sought to produce versions that are both understandable in their own right as English and yet still close enough to the Latin to serve usefully as supports for readers who might wish to consult them in working through the originals. Toeing the line between these two different but not mutually exclusive purposes has been necessary, since in almost all cases we have been aware that these will remain—probably for a long time to come—the only translations available. To show others how fascinating the texts are, the translations must be readable; but to assist researchers who may resort to the originals (and who may be inspired to produce their own translations of other related materials), they must be reliable. Whether all the attempts have been successful is for readers to judge. All we ask is that they bear in mind the particular challenges of translating medieval academic Latin into comprehensible contemporary English.

About the Drawings

There is ample reason to justify making an anthology on memory and mnemonics not merely textual but rather broadly multimedia. After all, the Greek poet Simonides, who has been traditionally credited with the invention of systematic memory-craft, is also the one who equated the visual and the poetic in the theory that was later reduced by Horace to the dictum "ut pictura poesis": painting is wordless poetry, poetry painting with words.

The question of how and whether to reproduce the drawings associated with some of these works is one that we carefully considered. As with our translations of the verbal texts, we have tried to adhere to a fine line that will enable a modern student to gain some idea of what it would be like to work with such drawings while at the same time recognizing that their unfamiliar vocabulary needs to be rendered in a manner as faithful to the original as possible, without being anachronistically quaint or inappropriately literal. All the drawings in this anthology are from original manuscript drawings, paintings, or woodblocks that actually accompanied the texts; in each case where an image has been redrawn, we have also reproduced the original (or, in the case of the blockbook *Ars memorativa,* an example, since there are 15 drawings in all). Where no drawings are extant, as in the case of Hugh of St. Victor's *A Little Book About Constructing Noah's Ark* or Thomas Bradwardine's *On Acquiring a Trained Memory,* we have not attempted to make equivalents, even though these texts contain elaborate, vivid word pictures that seem to invite their realization in paint.

Essential to medieval memory technique was the ability to raise up pictures in one's own mind, to use the power of imagination in meditation and invention. By not supplying drawings except where there is ample medieval warrant for doing so, we hope to encourage students of these texts to do what their original readers were asked to do, to draw and to paint, for *pingere* and *fingere* are verbs often found in the word pictures—but to paint and fashion the textual pictures *in one's mind.*

At the same time, we decided to redraw and often simplify those drawings we did have—in effect, to translate them, too—because we believe this procedure to be in keeping with the original intention of these images. Their authors did not consider their efforts to be truthful so much as helpful. They were foundations on which a preacher or someone engaged in meditative reading could build, first by internalizing the schematic and then by adding to it, modifying it, even perhaps abandoning it as her or his own thoughts required. Medieval commentary on the scheme of locations and images described in *Rhetorica adHerennium* 3.18 underscored that the schematic of locations was permanent, while the images, like letters inscribed on parchment or a waxed surface, were erased and written over, thus emphasizing how memory pictures should be constantly adapted during the course of a lifetime of meditative thought and pastoral offices.

In seeking to understand how medieval meditative pictures were supposed to function, one should keep in mind that the most encyclopedic of the pictures described in this anthology, Hugh of St.

Victor's mental drawing of Noah's Ark, was not designed to be fully painted *except* in the mind, though Hugh says that some might want at first to sketch out, with ruler and compass, the basic trisected rectangular plan of the structure. In our translations of the pictures, we have purposely simplified even the images that do exist in the manuscripts and have deliberately sought examples that are not works by major artists, in order to encourage modern students to think of them as supports and schematics for additional thought and meditation, rather than solely as art historical or literary objects. All these pictures were intended by their authors to be literally "translated," carried over into the ruminating minds of their viewers and readers.

In addition to the authors and translators acknowledged with each selection, the following credits should also be given. Mary Carruthers and Jan Ziolkowski prepared the General Bibliography. Any translations within the essays of Karol Berger and Lucy Freeman Sandler are the work of those authors. The line drawings made from book and manuscript sources were prepared as follows: the seraph drawing by Ben Whitehouse of Whitehouse & Company, Hugh of St. Victor's chronicle diagram by Mary Carruthers, and all the rest by Collin McKinney with Karen Overbey. Karen Overbey was particularly helpful as well in researching various pictorial aspects of this project, and we extend particular thanks to her.

Publication of this book has been aided by a grant from the Abraham and Rebecca Stein Publication Fund of New York University, Department of English. Additional grants from Harvard University and New York University aided us in securing photos and permission rights and paid for travel by the editors to confer on this project. Great thanks are due also to the readers for University of Pennsylvania Press, whose many excellent suggestions we have incorporated, but who cannot be responsible for any errors in the final copy. To Jerome Singerman, our editor, and the production team at the Press, we express our admiration and gratitude for their unfailing courtesy toward us and unflagging support for this project.

1. Hugh of St.Victor, *Didascalicon* 3.10, Buttimer edition: "Meditatio est cogitatio frequens cum consilio. . . . principium sumit a lectione, nullis tamen stringitur regulis aut praeceptis lectionis. delectatur enim quodam aperto decurrerre spatio, . . . et nunc has, nunc illas rerum causas perstringere. . . . unde fit ut maximum in meditatione sit oblectamentum."

2. This number was arrived at through experiments by the psychologist George A. Miller, conducted in part at Bell Laboratories to help determine the optimal length of a personal telephone number. Important to the memorability of such sequences (which need to be securely recalled with complete accuracy in a great variety of circumstances) is not only the whole number of digits but also their grouping or clustering within the number segment (as two groups of 3 digits each,

or four groups of 2 digits each, or a group of 3 plus a group of 4, and the like). See G. A. Miller, "The Magical Number Seven, Plus or Minus Two," *Psychological Review* 63 (1956): 81–97. Subsequent research has lengthened the limits of working memory somewhat, but not much beyond 10 units for most people. The relevance of Miller's work to understanding the medieval mnemotechnical principles of "dividing" and "gathering" is discussed further in Carruthers, *Book of Memory,* 80–107.

3. The translation is that of Margaret F. Nims (Toronto: Pontifical Institute of Mediaeval Studies, 1967), of the text in Edmond Faral, ed.., *Les arts poétiques des xiie etxiiie siècles* (1924; rpt. Paris: Champion, 1962).

4. Aristotle, *De memoria et reminiscentia* 449b22–23, and the notes and comments by Sorabji, *Aristotle on Memory.* Another discussion of this passage in relation to Aristotle's views on *mnēmē* and *anamnēsis* (recollecting) in this treatise and elsewhere, is Julia Annas, "Aristotle on Memory and the Self," in *Essays on Aristotle's* De Anima, ed. Martha C. Nussbaum and Amélie Oksenberg Rorty (Oxford: Clarendon Press, 1992), 297–311. As Annas points out (298), Greek *mnēmē* is the more general word, from which Aristotle distinguishes two separate mental activities, storage, which he also calls *mnēmē* ("memory as 'of the past'") and recollecting, which he usually calls *anamnësis,* but even in this treatise he uses *mnēmē* for both. The monks' common expression *mnēmē theou,* "the memory of God," must be added to the already complex background of the medieval versions of this debate on the relationship of memory and past. An overview of the debate among philosophers concerning memory and *"the* past" is Coleman, *Ancient and Medieval Memories.* In a review of this book for the *London Review of Books* (14 May 1992), Annas stresses the important conceptual distinction, not at all clear in Aristotle, between "past" as "the past" or as "my past." Late classical and monastic medieval thought conceived of "past" usually in terms of *"my* past," that is, what I, the recollecting person, have experienced previously, including all that I have learned in school. No recollection, on this model, can truly be "neutral." A concept of *"the* past," however, suggests an independent object that can be neutrally described.

5. The text is discussed by Yates, *Art of Memory* and Carruthers, *Book of Memory.*

6. The transmission of the *Rhetorica ad Herennium* indicates that it was little used in antiquity, but surfaced in Africa sometime after the middle of the fourth century C.E., newly edited and ascribed (wrongly) to Cicero on the basis of some coincidence of phrasing between *Ad Her.* 1.6.9 and *De invent.* 1.17.23. Jerome evidently knew the text, and some historians now believe that Augustine may have played a role in its revival, though he does not quote from it. It was copied, with editorial changes, in the Carolingian period. But it remained in the shadow of the better-known *De inventione* until the late eleventh century, when the medieval commentary tradition begins. It only became influential beyond the university in the fourteenth century and later. See Ward, *Ciceronian Rhetoric,* 90–93, Yates, *Art of Memory,* 95-ioi, and P. Ruth Taylor, "'Pre-History' in the Ninth-Century Manuscripts of the *Ad Herennium" Classica et Mediaevalia* 44 (1993): 181–254.

7. In his treatise *On the Good (De bono),* Albertus Magnus commended it as the best among the arts of memory (Tractatus 4, Q.2, art. 2; trans. Carruthers, *Book of Memory,* 275). Thomas Aquinas specifically commends it in *Summa theologiae* II-IIae, Q.49. art. I.

I. Hugh of St. Victor, *The Three Best Memory Aids for Learning History*

translated by Mary Carruthers

Hugh of St. Victor was one of the major intellectual figures of the first half of the twelfth century. He taught in the school of St. Victor, a reformed abbey of Augustinian canons in Paris. In the course of his pedagogical career, he composed many dozens of works of theology and exegesis, along with significant works in disciplines ranging from history and grammar to geometry and cartography. His writings were particularly substantial in the realms of mystical theology and exegesis, where his students in the convent of St. Victor, Richard and Andrew, continued his work. His works are found in some 2500 manuscripts, bearing testimony to his influence outside St. Victor. He died in Paris in 1141.

In the Latin title given in the manuscripts to this brief school treatise, "[liber] de tribus maximis circumstantiis gestorum," the word *circumstantia* is used in a technical sense and derives from a standard medieval pedagogy that Hugh also used to introduce his commentaries on various books of the Bible. The method goes back as far as Gregory the Great and Bede, who spoke of there being three *circumstantiae* necessary to know about each of the biblical books, namely,*persona, locus,* and *tempus–"who* wrote it, where, when, and for what occasion." Such *circumstantiae* were long a part of the ancient pedagogy of rhetoric and were taught as a basic tool of invention, for finding, focusing, and delimiting one's subject.

Hugh of St.Victor has adapted this technique for his novices beginning their Bible studies: to learn the history securely, one needs first to memorize persons, places, and dates.These *circumstantiae* are the mnemonically functioning headings Hugh describes in the last paragraphs of his introduction, exactly as he wants them to be put away in the strongbox of his students' memories, and for which he provided a diagram (Figures 1.1, 1.2). The principle of *divisio,* that the memory be stored in a number of "chunks," each of a size equivalent to the limit of immediate memory, is here clearly demonstrated. Each psalm is first reduced to its incipit, and then this initial phrase is attached by meditation to the numbers of the Psalms in order. One next proceeds to add to one's memory the rest of each psalm's text, in the manner Hugh then describes. The "single glance" of memory–what you can take in with one look of your mind's eye – is the medieval memory-writer's term closest to our concept of "short-term memory."

Though this is generally somewhere between four and eight things, notice how Hugh stresses that each of his students will have to observe for himself just how long a textual chunk is appropriate to his own mental glance. It is also noteworthy that the examples Hugh cites with respect to the first chunk of the first three psalms are quite short.

This brief work was composed as a preface to a chronology of biblical history Hugh compiled for the student-novices at St. Victor. The last three paragraphs of the treatise refer directly to the diagram Hugh devised for his chronology.What is interesting about his language in these paragraphs is the picture it is designed to paint in the minds of his students. Though far less elaborate than the diagram in *A Little Book About Constructing Noah's Ark,* it nonetheless stresses numbers, and expounds step-by-step the order of creation, put in place by God in nature and disposed by the students in the places of their mental diagram. And as God usefully ornaments his creation, so the memory structure needs to be decorated usefully in order to achieve the mnemonic task properly. The drawing accompanying this translation is derived from that in the manuscript on which the standard edited text is based, Bibliothèque Nationale de France MS. lat. 15009, a late twelfth-century manuscript from the library of St. Victor itself.

SOURCE: Revised from Carruthers, *Book of Memory,* 261–66; see esp. 80–85 for a discussion of the techniques described.Translated from the edition of William M.Green, "De tribus maximis circumstantiis gestorum," *Speculum* 18 (1943): 484–93. Two typographical errors in that text have been corrected: *ornatem* (for *ornatam),* p. 490.24, and *pituit* (for *potuit),* p. 490.40.

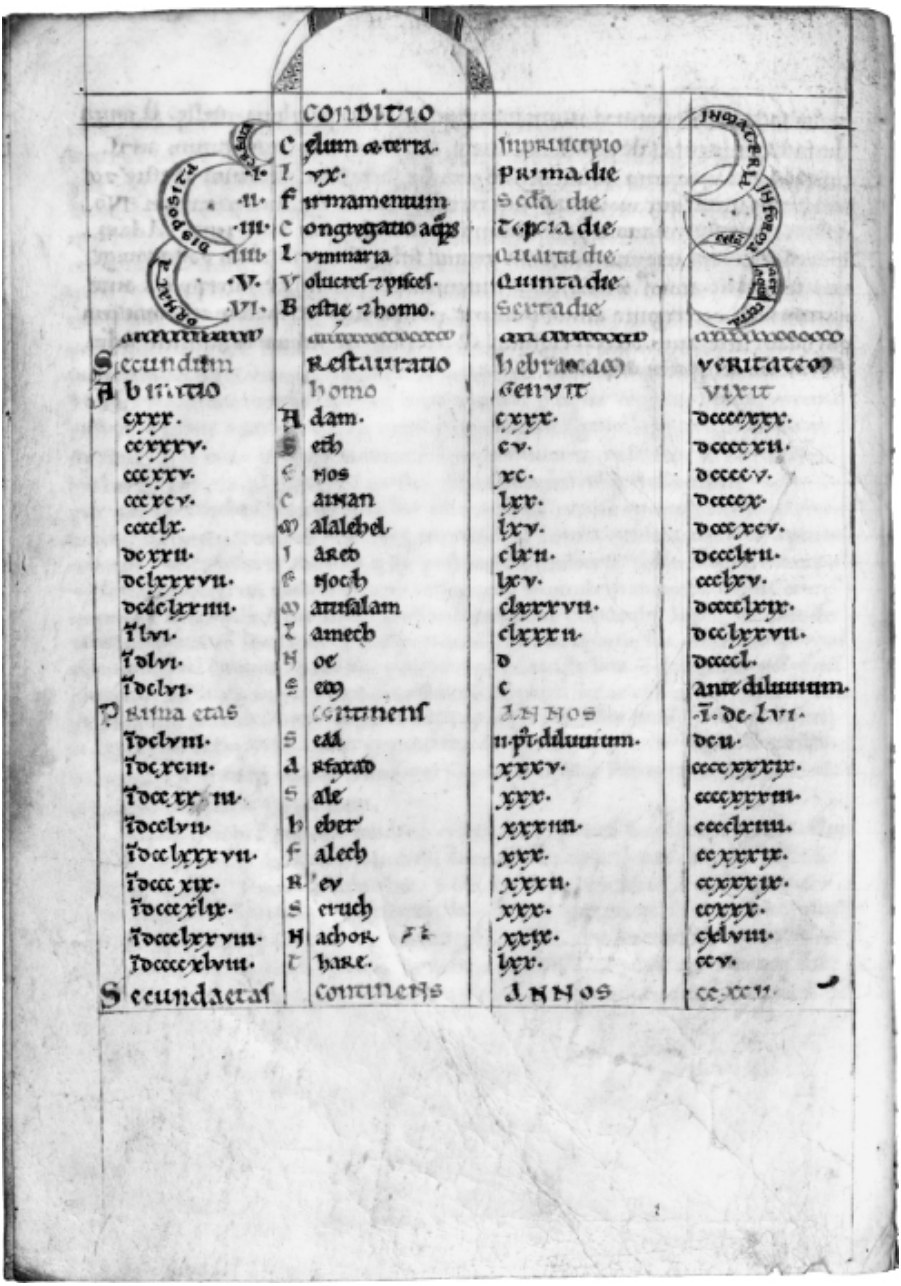
FURTHER READING: The work was discussed as a memory art by Grover A. Zinn, Jr., "Hugh of St. Victor and the Art of Memory," *Viator* 5 (1974): 211–34. The standard discussion and catalogue of all the manuscripts of Hugh of St. Victor's work (which in the absence of a comprehensive modern critical edition remains an essential tool for all students of his works) is Rudolph Goy, *Die Überlieferung der Werke Hugos von St. Viktor* (Stuttgart: Anton Hiersemann, 1976).

–Mary Carruthers

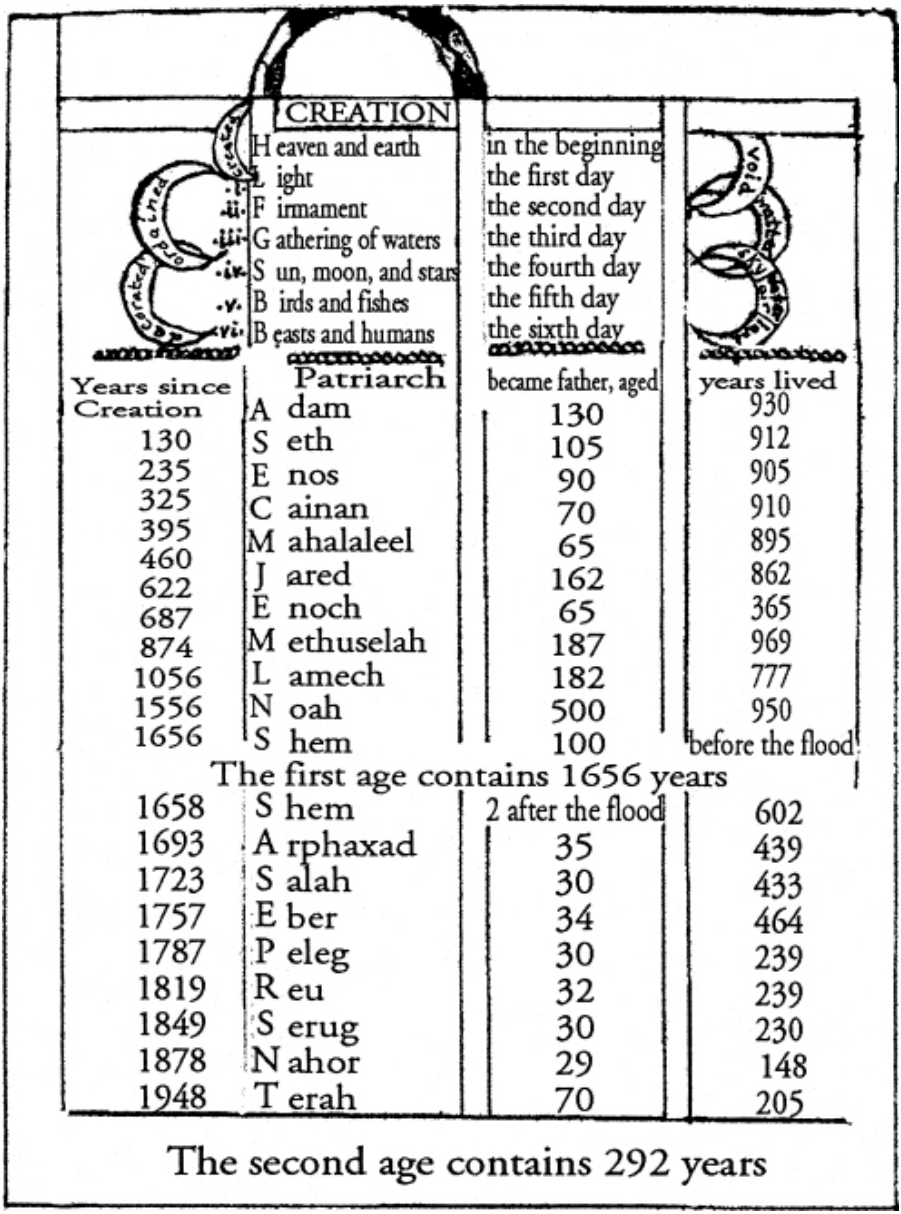
Child, knowledge is a treasury and your heart is its strongbox. As you study all of knowledge, you store up for yourselves good treasures, immortal treasures, incorruptible treasures, which never decay nor lose the beauty of their brightness. In the treasure house of wisdom are various sorts of wealth, and many filing-places in the storehouse of your heart. In one place is put gold, in another silver, in another precious jewels. Their orderly arrangement is clarity of knowledge. Dispose and separate each single thing into its own place, this into its and that into its, so that you may know what has been

placed here and what there. Confusion is the mother of ignorance and for-getfulness, but orderly arrangement illuminates the intelligence and secures memory.

You see how a money-changer who has unsorted coins divides his one pouch into several compartments, just as a cloister embraces many separate cells inside. Then, having sorted the coins and separated out each type of money in turn, he puts them all to be kept in their proper places, so that the distinctiveness of his compartments may keep the assortment of his materials from getting mixed up, just as it supports their separation.[1] Additionally, you observe in his display of money-changing, how his ready hand without faltering follows wherever the commanding nod of a customer has caused it to extend, and quickly, without delay, it brings into the open, separately and without confusion, everything that he either may have wanted to receive or promised to give out. And it would provide onlookers with a spectacle silly and absurd enough, if, while one and the same money-bag should pour forth so many varieties without muddle, this same bag, its mouth being opened, should not display on its inside an equivalent number of separate compartments. And so this particular separation into distinct places, which I have described, at one and the same time eliminates for the onlookers any mystery in the action, and, for those doing it, an obstacle to their ability to perform it.



	CONDITIO		
	C	ælum & terra.	In principio
I.	I	ux.	Prima die
II.	F	irmamentum	Secda die
III.	C	ongregatio aq̃rs	Tercia die
IIII.	L	uminaria	Quarta die
V.	V	olucres & pisces.	Quinta die
VI.	B	estie & homo.	Sexta die
annorum		annorum	annorum	annorum
Secundum		Restauratio	Hebraicam	veritatem
Habitatio		homo	Genuit	vixit
cxxx.	H	dam.	cxxx.	dccccxxx.
cxxxv.	S	eth	cv.	dcccxii.
ccxxv.	E	nos	xc.	dccccv.
ccxcv.	C	aynan	lxx.	dccccx.
cccclx.	M	alalehel	lxv.	dccxcv.
dcxii.	I	ared	clxii.	dccclxii.
dclxxxvii.	E	noch	lxv.	ccclxv.
dcclxxiiii.	M	athusalam	clxxxvii.	dcccclxix.
Ĩlvi.	L	amech	clxxxii.	dcclxxvii.
Ĩdlvi.	N	oe	d	dccccl.
Ĩdclvi.	S	em	c	ante diluuium.
Prima etas		continens	Annos	Ĩ. de. lvi.
Ĩdclvii.	S	ell	ii. post diluuium.	dcii.
Ĩdcxciii.	A	rfaxad	xxxv.	cccc.xxxix.
Ĩdccxxxiii.	S	ale	xxx.	cccc.xxxviii.
Ĩdcclvii.	H	eber	xxxiiii.	cccclxiiii.
Ĩdclxxxvii.	F	alech	xxx.	ccxxxix.
Ĩdccc.xii.	R	eu	xxxii.	ccxxxix.
Ĩdccc.xlix.	S	erug	xxx.	ccxxx.
Ĩdccclxxviii.	N	achor	xxix.	cclviii.
Ĩdccccxlviii.	T	hare.	lxx.	ccv.
Secunda etas		continens	Annos	ccxcii.



CREATION

	Heaven and earth	in the beginning
i.	Light	the first day
ii.	Firmament	the second day
iii.	Gathering of waters	the third day
iv.	Sun, moon, and stars	the fourth day
v.	Birds and fishes	the fifth day
vi.	Beasts and humans	the sixth day

Years since Creation	Patriarch	became father, aged	years lived
	Adam	130	930
130	Seth	105	912
235	Enos	90	905
325	Cainan	70	910
395	Mahalaleel	65	895
460	Jared	162	862
622	Enoch	65	365
687	Methuselah	187	969
874	Lamech	182	777
1056	Noah	500	950
1556	Shem	100	before the flood

The first age contains 1656 years

1658	Shem	2 after the flood	602
1693	Arphaxad	35	439
1723	Salah	30	433
1757	Eber	34	464
1787	Peleg	30	239
1819	Reu	32	239
1849	Serug	30	230
1878	Nahor	29	148
1948	Terah	70	205

The second age contains 292 years

Figure 1.2. "The Beginning of History," from Hugh of St. Victor's *Chronicon.* Drawing by Mary Carruthers.

Now as we just said by way of preface, a classifying-system for material makes it manifest to the mind. Truly such a display of matters both illuminates the soul when it perceives them, and confirms them in memory. Return, therefore, child, to your heart and consider how you should dispose and collect in it the precious treasures of wisdom, so that you may learn about its individual repositories, and when for safekeeping you place something in them,

dispose it in such an order that when your reason asks for it, you are easily able to find it by means of your memory and understand it by means of your intellect, and bring it forth by means of your eloquence. I am going to propose to you a particular method for such classification.

Matters that are learned are classified in the memory in three ways; by number, location, and occasion. Thus all the things which you may have heard you will both readily capture in your intellect and retain for a long time in your memory, if you have learned to classify them according to these three categories. I will demonstrate one at a time the manner in which each should be used.

The first means of classifying is by number. Learn to construct in your mind a line [of numbers] numbered from one on, in however long a sequence you want, extended as it were before the eyes of your mind. When you hear any number at all called out, become accustomed to quickly turning your mind there [on your mental line] where its sum is enclosed, as though to that specific point at which in full this number is completed. For example, when you hear ten, think of the tenth place, or when twelve, think of the twelfth, so that you conceive of the whole according to its outer extent [along the line], and likewise for the other [numbers]. Make this conception and this way of imagining it practiced and habitual, so that you conceive of the limit and extent of all numbers visually, just as though [they were] placed in particular places. And listen to how this mental visualization may be useful for learning.

Suppose for example that I wish to learn the Psalter word for word by heart. I proceed thus: first I consider how many psalms there are. There are 150. I learn them all in order so that I know which is the first, which the second, which the third, and so on. I then place them all by order in my heart along my [mental] numerical line, and one at a time I designate them to the seats where they are disposed in the grid, while at the same time, accompanied by voicing or cogitation, I listen and observe closely until each becomes to me of a size equivalent to one glance of my memory: “Blessed is the man,” with respect to the first psalm; “Why have the gentiles raged,” with respect to the second; “Why, O Lord, are they multiplied,” with respect to the third; this [much] is kept in the first, second, and third compartments. And then I imprint the result of my mental effort by the vigilant concentration of my heart so that, when asked, without hesitation I may answer, either in forward order, or by skipping one or several, or in reverse order and recited backward according to my completely mastered scheme of places, what is the first, what the second, what indeed the 27th, the 48th, or whatever psalm it should be. In this manner [disputants] demonstrate [that] the Scriptures confirm their

own arguments when, as they are about to use the authority of some one psalm, they say this is written in the 63rd, this in the 75th, or whatever other psalm, fetching forth for reference not its name but its number. For surely, you do not think that those who wish to cite some one of the psalms have turned over the manuscript pages, so that starting their count from the beginning they could figure out what number in the series of psalms each might have? The labor in such a task would be too great. Therefore they have in their heart a powerful mental device, and they have retained it in memory, for they have learned the number and the order of each single item in the series.

Having learned the Psalms [as a whole], I then devise the same sort of scheme for each separate psalm, starting with the beginning words of the verses just as I did for the whole Psalter starting with the first words of the psalms, and I can thereafter easily retain in my heart the whole series one verse at a time; first by dividing and marking off the book by [whole] psalms and then each psalm by verses, I have reduced a large amount of material to such conciseness and brevity. And this [method] in fact can readily be seen in the psalms or in other books containing obvious divisions. When however the reading is in an unbroken series, it is necessary to do this artificially, so that, to be sure according to the convenience of the reader, [at those places] where it seems [to him] most suitable, first the whole piece is divided into a fixed number of sections, and these again into others, these into yet others, until the whole length of material is so parceled up that the mind can easily retain it in single units. For the memory always rejoices in both brevity of length and paucity of number, and therefore it is necessary, when the sequence of your reading tends toward length, that it first be divided into a few units, so that what the mind could not comprehend in a single expanse it can comprehend at least in a number, and again, when later the more moderate number of items is subdivided into many, it may be aided in each case by the principle of paucity or brevity.

So you see the value to learning a numerical division-scheme; now see and consider of what value for the same thing is the classification-system according to location. Have you never noticed how a boy has greater difficulty impressing upon his memory what he has read if he often changes his copy [of a text] between readings? Why should this be unless it is because, when the image-receiving power of the heart is directed outward through the senses into so many shapes from diverse books, no specific image can remain within [the inner senses] by means of which a memory-image may be fixed? For when something is brought together to be fashioned into an image from all [the copies] indiscriminately, one superimposed upon another, and always the earlier being wiped away by later ones, nothing personal or familiar

remains which by use and practice can be clearly possessed. Therefore it is a great value for fixing a memory-image that when we read books, we strive to impress on our memory through the power of forming our mental images not only the number and order of verses or ideas, but at the same time the color, shape, position, and placement of the letters, where we have seen this or that written, in what part, in what location (at the top, the middle, or the bottom) we saw it positioned, in what color we observed the trace of the letter or the ornamented surface of the parchment. Indeed I consider nothing so useful for stimulating the memory as this; that we also pay attention carefully to those circumstances of things which can occur accidentally and externally, so that, for example, together with the appearance and quality or location of the places in which we heard one thing or the other, we recall also the face and habits of the people from whom we learned this and that, and, if there are any, the things that accompany the performance of a certain activity. All these things indeed are rudimentary in nature, but of a sort beneficial for boys.

After the classifications by number and place follows the classification by occasions, that is: what was done earlier and what later, how much earlier and how much later, by how many years, months, days this precedes that and that follows this other. This classification is relevant in a situation when, according to the varying nature of the occasions on which we learned something, at a later time we may be able to recall to our mind a memory of the content, as we remember that one occasion was at night and another by day, one in winter another in summer, one in cloudy weather another in sunshine. All these things truly we have composed as a kind of prelude [to our learning], providing the basics to children, lest we, disdaining these most basic elements of our studies, start little by little to ramble incoherently. Indeed the whole usefulness of education consists only in the memory of it, for just as having heard something does not profit one who cannot understand, likewise having understood is not valuable to one who either will not or cannot remember. Indeed it was profitable to have listened only insofar as it caused us to have understood, and to have understood insofar as it was retained. But these are as it were basics for knowledge, which, if they are firmly impressed in your memory, open up all the rest readily. We have written out this [list of names, dates, and places] for you in the following pages, disposed in the order in which we wish them to be implanted in your soul through memory, so that whatever afterward we build upon it may be firm.

All exposition of divine Scripture is drawn forth according to three senses: literal, allegorical, and tropological or moral. The literal is the narrative of history, expressed in the basic meaning of the letter.

Allegory is when by means of this event in the story, which we find in the literal meaning, another action is signified, belonging to past or present or future time. Tropology is when in that action which we hear was done, we recognize what we should be doing. Whence it rightly receives the name "tropology," that is, converted speech or replicated discourse, for without a doubt we turn the word of a story about others to our own instruction when, having read of the deeds of others, we conform our living to their example.

But now we have in hand history, as it were the foundation of all knowledge, the first to be laid out together in memory. But because, as we said, the memory delights in brevity, yet the events of history are nearly infinite, it is necessary for us, from among all of that material, to gather together a kind of brief summary–as it were the foundation of a foundation, that is a first foundation–which the soul can most easily comprehend and the memory retain. There are three matters on which the knowledge of past actions especially depends, that is, the persons who performed the deeds, the places in which they were performed, and the time at which they occurred. Whoever holds these three by memory in his soul will find that he has built a good foundation for himself, onto which he can assemble afterward anything by reading and lecture without difficulty and rapidly take it in and retain it for a long time. However, in so doing it is necessary to retain it in memory and by diligent retracing to have it customary and well known, so that his heart may be ready to put in place everything he has heard, and apply those classification techniques which he will have learned now, to all things that he may hear afterward by a suitable distribution according to their place, date, and person.

While [the circumstances of] time and number measure off length in the chest of memory, [the aspect of] place extends the area in width, so that the rest of the material may then be disposed in its locations. First, therefore, we will place in order our persons together with their dates, extending them from the beginning along the length of the time-line, [and] we will mark off our places, however many will adequately allow for the full extent of our summary, gathered up out of all the material. Now indeed endeavor to imprint in this fashion in your memory the matters which are written out below, according to the method and diagram for learning by heart demonstrated to you earlier, so that by experience you can know the truth of my words, when you perceive how valuable it is to devote study and labor not just to having heard the lectures on the Scriptures or to discussion, but to memory-work.

The creation of nature was completed in six days and the renewal of man will be achieved in six stages. The world was made before time began, fashioned in six days, put in order in the first three days, and

fitted out and decorated in the three following. On the first day was made light, on the second the firmament between the waters above and the waters below. On the third day the waters which were under the firmament were gathered together in one place, and dry land appeared, and produced green plants and those which make fruits. Behold the arrangement of the four elements. The heaven was stretched out above, next the air was made clear, next the waters were gathered together in one place, then the land was revealed. Its equipping and decoration followed.[2] On the fourth day lights—the sun, moon, and stars—were created for ornamenting the heaven. On the fifth day fish were created from the waters, and birds, birds for decoration of the air, fish for equipping the waters. On the sixth day were made the beasts of burden, wild beasts, and the rest of living creatures, for ornament of the dry lands.

At the very last, in fulfillment of all, humankind was created, Adam and Eve. When he was 130 years old, Adam engendered Seth. And Adam lived after he engendered Seth 800 years. Thus it is found in the Hebrew. However the authors of the Septuagint place 230 years before the birth of Seth, 700 after. And in all the period of Adam's life was 930 years. And likewise the others follow along in the columns of the diagram according to the true disposition of the Hebrew.

1. Hugh uses such words as *distinctio, discretio, partitio* with both *rerum*, referring to the division and classification of subject matters, and *locorum*, referring to the mental locations imaginedfor the mnemotechnique he is describing. *Distinctio* came into particularly common use in the *artes praedicandi* of the thirteenth century and later, to refer to the analysis of a theme made for preaching a sermon. Hugh's discussion here shows how, from the beginning of scholastic method, locational "rhetorical memory" for composing an oration and "dialectical memory" for analyzing and composing an argument were intentionally closely allied.

2. No English word captures the double and simultaneous meaning of Latin *ornatus* and *ornamentum,* "equipment, adornment." The marriage of function and beauty, use and delight, which this family of words achieves I have rendered into English alternately with words conveying usefulness and function and words referring to decoration.

2. Hugh of St. Victor, *A Little Book About Constructing Noah's Ark*

translated by Jessica Weiss

The work translated here has traditionally been called *De arca Noe mystica,* or "The Ark of Noah According to the Spiritual Method of Reading." As is the case with a slowly decreasing majority of Hugh's works, it has just been critically edited. The new edition by Patrice Sicard (CCCM 176–176A, Turnhout: Brepols, 2001) was not available when this translation was made. As a result, the edition used is that in the *Patrologia Latina,* with chapter numbering as in Migne and paragraphs numbered for this translation.

The new critical edition has a new title, *Libellus de formatione arche,* the title we have given to the work in this anthology. Before this edition was available, Sicard offered many observations on the textual tradition of this work in his 1993 study. An examination of its fifty-eight extant manuscripts revealed that the text exists in two different versions. Sicard argues that the shorter of the two versions is a modest revision of the longer text, also from Hugh's hand.The seventeenth-century edition reprinted in the *PL* provides the text of the longer version. In this translation, material that is special to the longer version is in brackets, so that a reader can compare the two versions. The work shows connections to some of Hugh's other projects, but it is especially closely related to a work traditionally called *De archa Noe morali,* or "The Ark of Noah According to the Ethical (Tropological) Method of Reading," which Sicard has now retitled simply *De archa Noe (On Noah's Ark).* This close relationship is reflected by the manuscript tradition, where *Constructing Noah's Ark* is sometimes treated as the last book of the other work. More important, the two works treat an identical list of subjects. *Constructing Noah's Ark* serves to arrange the historical, theological, and psychological teaching of *On Noah's Ark* in a voluminous and intricate design, which, in turn, can be richly meditated upon in the tradition of monastic *memoria spiritalis.*

The work is in the most basic sense visual, and the best way of coming to an understanding of its contents is for its readers to attempt their own drawings of the diagram it describes, as faithfully as possible. It is important to note that several manuscripts of the *Libellus* call it *Depinctio arche (A drawing of the Ark)* or *De pictura arche (Concerning a picture of the* Ark)–the term *pictura* being used in the rhetorical sense (discussed in the General Introduction) of "an arrangement of images." Hugh's ethical reading of Noah's Ark (of

which there is an English translation) is the composition for which the "picture" painted imaginatively in this treatise offers a summary introduction or plan, in the tradition of a rhetorical "memory summary," or *memoria summatim.*

Most modern students would do best to sketch out the different parts of Hugh's design separately. Medieval students, depending on their level of mental skill, "painted" the intricate plans in their minds, as Hugh says he did, though parts of it can be laid out with a compass and measuring lines, perhaps in sand, in the manner of a medieval master builder laying out the initial plan of an actual building. It should be emphasized, however, that, unlike the case of the tabular diagram for Hugh's *Chronicon* preface, no manuscripts of this work, even those kept in the library of St. Victor, contain even partial drawings of the picture it describes, and there is no reason to suppose that it was ever materially realized or that it described an actual painting. Indeed, the work clearly describes a process of making rather than an object already made. Active verbs of painting and drawing are used throughout the work.

The task of drawing Hugh describes is by no means easy, and Hugh sometimes anticipates or even contradicts himself. He leaves some details (for instance, the coloring of the verses of the Bible) to individual taste. For additional help with the project of drawing the Ark, see Carruthers, *Book of Memory,* 231–39. Sicard, *Diagrammes médiévaux,* plates 7–8, provides two-dimensional versions of the basic form of the Ark as described in the long and short versions, and Lecoq, "'Mappemonde' in De Arca Mystica," essayed a drawing of the *mappamundi* figure. Sicard's critical text is accompanied by a volume (CCCM 176A) of schematic drawings of the Ark *pictura.*

Constructing Noah's Ark is representative of a genre, traditional in Hugh's time and milieu, of meditational compositions based on the various buildings whose plans are described in the Bible.These included, most notably, the Tabernacle in Exodus 25ff, Solomon's Temple in 1 Kings 6, the Temple and its platform in Ezekiel's vision (Ezekiel 40ff), the Heavenly Jerusalem of Revelation 20, and Noah's Ark (Genesis 6). All these structures, including the Ark, were analyzed as avatars of one another, and of Christ and the Church, following the statement in Hebrews 8:2–6 that Christ is the true tabernacle, the pattern of the structure revealed to Moses. One of the earliest representatives of the genre still extant is Gregory the Great's set of sermons on Ezekiel 40, though there is good reason to believe that its origins lie in the meditational practice of the early desert fathers and in Jewish spiritual traditions of the first century. Bede, the eighth-century English monk, commented extensively on the description of the tabernacle in Exodus; his work remained the model through the

eleventh century.Twelfth-century representatives of the genre include, in addition to Hugh of St. Victor's work on Noah's Ark, a *Commentary on the Tabernacle* by Peter of Celle, the abbot who masterminded the program of stained-glass windows at the royal abbey of St.-Rémi in Reims. A particularly close parallel to Hugh's work is the *Three-Part Tabernacle, Together with a Picture* by Adam of Dryburgh (composed at the end of the century), which contains what Adam calls a *pictura* of the Tabernacle's plan, described much in the manner of Hugh's *pictura* of Noah's Ark. Dryburgh was an abbey of Premonstratensian canons in Scotland, an order whose founder, St. Norbert, had ties to the abbey of St.Victor.Works from St. Victor itself that were surely written with Hugh's example in mind include those of Richard of St. Victor, notably his contemplative treatise *The Mystical Ark* (also called "Benjamin major") with its appendix, "Some Allegories of the Tabernacle of the Covenant with a Very Brief Recapitulation of the Contents of the Foregoing Work," which serves in relation to the longer treatise as *Constructing Noah's Ark* does to *On Noah's Ark.* Richard also composed a commentary, with plans and drawings, *On the Vision of Ezekiel.* Long after the Middle Ages, plans and drawings of the ideal Jerusalem Temple were still being made, including a remarkable series by Sir Isaac Newton.

The literal structure of the Ark, as Hugh "draws" it (paras. 2–6), serves as the basis for all that comes afterward, just as Hugh himself felt that a sound grasp of the literal truth of the Bible should serve as a basis for all interpretation. The largest part of the treatise, however, develops the moral and allegorical meaning of the Ark. In a surprising passage toward the end, the Ark is given special compartments, not mentioned in Genesis, for amphibious animals. Hugh makes the Ark, allegorically, a prefiguration of the Church (para. 6), using an exegetical commonplace going back at least to St. Ambrose. With this analogy as his basis, he projects a plan of the Ark in which its length corresponds to the history of the Church since the beginning of time. Hugh represents the history of the Church in a list of patriarchs and popes that, in his diagram, extends from one end of the Ark to the other (paras. 7–10). The length of the Ark gives him occasion to discuss the membership of the Church (who are the occupants of the different chambers of the triple-decked Ark) through three divisions of time: the age of nature, the age of law, and the age of grace, in a concise chronological summary of spiritual history (paras. 11–13). By a similar reasoning, the breadth of the Ark corresponds to the membership of the Church, gentile and Jew, male and female (para. 14).

After this, Hugh begins to depict another sort of diagram, based on the emotional and intellectual steps of an individual's spiritual

progress, the spiritual practice known in monasticism as *sacra pagina,* or meditation based upon contemplative reading of the Bible. In terms of the traditional methods of scriptural interpretation (defined in his *Chronicon* preface; see Selection 1) he has given the literal reading in his original plan and elevation of the Ark, the allegorical reading in his timeline, and is now beginning a tropological or ethical interpretation of the basic figure. Hugh focuses his attention in the diagram on the corners of the Ark, imagining three ladders apiece in each of the four corners. Fittingly for such a meditation, the ladders are equipped with all the texts of the sacred page. Each of the corners represents an initial state of vice, and the three ladders represent the stages of ascent through virtue from that vice. Hugh describes the ascent from each of the corners along the three ladders in turn, adding verses of the Bible, colors, numbers, and, finally, allegorical figures (paras. 16–23). Next Hugh adds a door, little chambers, and a series of rooms (paras. 24–27). As a final touch, Hugh surrounds his Ark with a traditional arrangement of signs of the zodiac, seasons, and winds. The *pictura* is completed by a *mappamundi* (paras. 28–30) surrounded by the figure of Christ in majesty, for the true exemplar of all the biblical edifices is Christ.

The bulk of the work is devoted to the steps on the ladders of spiritual progress. The striking images, biblical verses, key words, numbers, and colors that occur in this longest section of the work (paras. 16–23) demonstrate Hugh's interest in fixing in the mind of his readers the stages of spiritual progress, the sequence of emotions and insights the sinner must complete in order to attain his goal of closeness to God. Hugh emphasizes the primary importance of learning the steps on the spiritual path in his introduction to the work, when he says, with reference to his design, "I depict it as an object, so that you learn outwardly what you ought to do inwardly" (para. 1). The intricacy and perfection of the structure as a whole serves, as Hugh himself says in closing, as an object of contemplation capable of moving the emotions: "I have said these things about the drawing of our Ark, so that if it please anyone to gaze inwardly upon the elegance of the Lord's house and His miracles, which are without number, he might at the same time rouse his emotion with this exemplar" (para. 30). The use of focused mental imaging to arouse the emotions from torpor and spiritual lethargy is a traditional feature of monastic spirituality. By harnessing emotion, the individual can move up the steps of the ladder of spiritual betterment. The intricacy of the diagram and its allegorical sense gives material for much contemplation.

SOURCE: Translated from Hugh of St.Victor, *De arca Noe mystica, PL* 176.681–702.

FURTHER READING: The most comprehensive study of Hugh of St.

Victor's *Libellus de formatione arche,* its sources, and its relationship to *De archa Noe* (formerly called *De arca Noe morali*) is Patrice Sicard, *Diagrammes médiévaux et exégèse visuelle: Le "Libellus de formatione arche" de Hugues de Saint-Victor,* Bibliotheca Victorina 4 (Turnhout: Brepols, 1993). Sicard is directing a new edition of all Hugh's works, including the two pieces on Noah's Ark. A related work, apparently by Hugh, is *Descriptio mappe mundi,* ed. Patrick Gautier Dalché (Paris: Etudes Augustiniennes, 1988). Studies of Hugh's thought particularly germane to the *De archa Noe* texts include Patrice Sicard, *Hugues de Saint-Victor et son École* (Turnhout: Brepols, 1991) and several essays by Grover A. Zinn, Jr., "Mandala Symbolism and Use in the Mysticism of Hugh of St. Victor," *History of Religions* 12 (1972): 317–41; *"De Gradibus Ascensionum:* The Stages of Contemplative Ascent in Two Treatises on Noah's Ark by Hugh of St.Victor," *Studies in Medieval Culture* 5 (1975): 61–79; and "Suger, Theology, and the Pseudo-Dionysian Tradition," in *Abbot Suger and St-Denis: A Symposium,* ed. Paula Gerson (New York: Metropolitan Museum, 1986), 3340. Carruthers, *Book of Memory,* 43–45, 229–42, discusses the Ark *pictura* as a device for inventive *memoria.* Danielle Lecoq, "La 'Mappemonde' du *De Archa Mystica* de Hugues de Saint-Victor," in *Géographie du monde au Moyen Age et à la Renaissance,* ed. Monique Pelletier, Mémoires de la Section Géographique 15: 9–31 + figs. 6–9 (Paris: CTHS, 1989), attempts a drawing of the *mappamundi* in the *Libellus,* and sets it within a tradition of visionary chart-making that includes Hildegard of Bingen's *Scivias.* An English translation of *De archa Noe* (*De arca Noe morali*) is in *Hugh of St. Victor: Selected Spiritual Writings,* trans. by a Religious of C.S.M.V. (London: SPCK, 1962). The genre of architectural exegesis is surveyed by Henri de Lubac, *Exégèse médiévale,* 4 vols. (Paris: Aubier, 1959–64): 4: 41–60, and, emphasizing its role in meditation, by Carruthers, *Craft of Thought,* 221–54. Gregory the Great's *Homiliae in Hiezechielem prophetam* have been edited by M. Adrien,CCSL 142 (Turnhout: Brepols, 1971). Bede's *De tabernaculo et vasis eius ac vestibus sacerdotum (Concerning the Tabernacle and Its Vessels and the Vestments of Its Priests),* has been edited by D. Hurst, CCSL 119A (Turnhout: Brepols, 1969). Adam of Dryburgh's *De tripartito tabernaculo* can be found in *PL* 198, cols. 609–796. Peter of Celle's *Tractatus de tabernaculo* has been edited by G. de Martel, CCCM 54 (Turnhout: Brepols, 1983). Peter's major contributions to the architecture of St. Rémi are analyzed by Madeleine Caviness, *Sumptuous Arts at the Royal Abbeys in Reims and Braine* (Princeton, N.J.: Princeton University Press, 1990). Richard of St. Victor's appendix to his work *The Mystical Ark* (*Benjamin major),* entitled *Expositio difficultatum suborientum in expositione tabernaculi foederis,*

is translated by Grover A. Zinn, Jr., in *The Twelve Patriarchs; The Mystical Ark; Book Three of the Trinity* (New York: Paulist Press, 1979), 344–70. Richard's commentary on the description of the Temple citadel in Ezekiel can be found in *PL* 196, cols. 191–202. For the drawings and plans made by Richard for this work, see Walter Cahn, "Architecture and Exegesis: Richard of St.-Victor's Ezekiel Commentary and Its Illustrations," *Art Bulletin* 76 (1994): 53–68. Examples in the genre from the sixteenth through eighteenth centuries, including Newton's, are discussed by Alberto Pérez-Gomez, "Juan Bautista Villalpando's Divine Model in Architectural Theory," *Chora: Intervals in the Philosophy of Architecture* (Montreal: McGill-Queens University Press) 3 (1999): 125–56.

–Mary Carruthers and Jessica Weiss

1. [Now I will offer an exemplar for our own ark, as I have promised. I depict it as an object, so that you learn outwardly what you ought to do inwardly, and so that, once you imprint the form of this example in your heart, you will be glad that the house of God has been built inside of you.][1]

Chapter One

2. First, in order to show in a figure the religious significances of the Ark of Noah, I find the center of the plane on which I want to draw the Ark, and there, I fix a point. Around this point I make a small square, which is like the cubit from which the Ark was constructed. And around this square also I make another, a little bit bigger than the first, in such a way that the space between the two squares looks like a band around the cubit. Next, I draw a cross in the innermost square in such a way that the four limbs of the cross meet each of its sides, and I go over the cross with gold. Then, I color in the spaces between the four angles of the cross and those of the square: the two above with red, the two lower ones with blue; in such a way that one half of the cubit resembles fire, with its bright red color, and the other half resembles a cloud with its blue. Next, in the band around the cubit, above the cross I make an alpha [*A*], which is the beginning. Opposite that, under the cross I make an omega [Ω], which is the end. Next to the right limb of the cross, I make a chi [*X*], which is the first letter in Christ's name. The chi [*X*] signifies the decalogue of the law,[2] which was given first to that ancient nation, as being elect and rightly placed at the right hand. Next to the left limb of the cross, I make a sigma [ς], which is the final letter in Christ's name. The sigma, in that it stands for 100, signifies the perfection of grace, which was first given to the gentile nations; the gentile nations, before they

received the faith, were at first not in favor, and so they belonged on the left hand. Then, in the space within the band I paint two bands of color: a band of green inside, and a band of purple outside. In the middle of the golden cross, I paint a yearling lamb, standing. Then the cubit is finished, and, if you ask what this means, what else could this picture say to you, if not that Christ is the Beginning and the End, the Bearer of the Old Law and of the New? [col. 682] What else could this drawing mean, except that this cubit signifies the nation that the column of fire and of cloud protected; the column that led the nation of Israel in the desert, giving them light with fire, and shade with cloud? It was terrifying to the earlier nation [the Israelites], punishing sins with the fire of His divine majesty, and then appeared mild to the later nation [the Christians], forgiving sins; He was sacrificed on the cross for the sins of men, like a meek lamb, without opening His mouth, and He was exalted, rising again for the sake of justice toward men and ascending into heaven. He offers to those coming from all parts to Him, through the purple of His blood, the example of His suffering, and the imperishable prize of heavenly reward symbolized by the green color. In the purple it signifies the blood of Christ's passion, and in the green, the water, with which He once judged the world. And again, in the purple, it signifies the damnation of the wicked men, whom He rightly condemned, and in the green, the freeing of the good men, whom He justly and mercifully will save. He stands to invite, stands to comfort, stands to crown, and stands to keep watch, guarding his city.

3. When the middle cubit is done, I draw, around the center that I mentioned above, another quadrilateral, a long way out, of the size that I want to make my Ark. This quadrilateral should be six times as long as it is wide, since the Ark of Noah was 300 cubits long, and 50 cubits wide, that is, six times as long as wide. [For the sake of a more suitable shape in the drawing, however, I shorten the length to four times the width.] Next, through the middle of this rectangle (which is the main deck of the Ark), I draw two lines lengthwise, enclosing the same amount of space as the inner square of the middle cubit. And then I do the same thing through the width of the rectangle, from one side [col. 683] to the other, in such a way that these two bands–the one through the middle of the length, the other through the middle of the width–intersect in the shape of a cross around the middle cubit, and accord with its inner borders, while the band around the middle cubit extends a little bit outside these lines in all directions. When this is done, I mark the points that divide the lines that go between the corners of the Ark and the corners of the middle cubit into three equal parts.[3] Then, using my ruler, I make vertical and horizontal lines between all pairs of adjacent points so as to form two other rectangles

with a length-width proportion of six to one. These rectangles are different in size in such a way that the whole base of the Ark is just as much bigger than the first rectangle, as the first rectangle is bigger than the second rectangle. The second rectangle, which is the smallest and is enclosed within the others in the plane, encircles the middle cubit, and intersects the two bands, of which one extends along the length, the other, the width of the Ark. It intersects the band that extends along the width above and below the middle cubit, and the band that extends along the length to the left and the right of the middle cubit. Then, the one that is outermost in the plane, but lowest in height,[4] encloses all the other rectangles within it, and, since it surrounds each of the four extreme limbs of the two bands with each of its sides, it includes both of these bands within itself also.

4. Then, if you are curious how this drawing represents the shape of the Ark, understand that an equilateral column is raised up in the Ark from the band that goes through the middle of the Ark's width. The height of this column is in a three to five ratio to the width of the Ark, since the height of the Ark was 30 cubits, and its width, 50 cubits.[5] If you wonder what I mean when I say that we should make a column, think of it this way: raise up the cubit that lies in the middle of this band so that it drags the band itself up with it, as though the band were folded over the center. And thus, both halves of the band hang downward toward the floor of the Ark, forming planes themselves, and they are joined to the floor of the Ark at the edges, so that it looks like an upright column. At the summit of that column stands the cubit that was in the middle of the plane at the beginning. Now, this cubit is nothing other than the cross-section of that column from above. Moreover, the border of this cubit is like a little rim or protuberance above on the tip of that column for receiving the timbers that come upward from all parts. These timbers are fixed under the same rim in which the roof reaches its highest point, like an imbrex, designed to hold together the highest points of the roof. And, although the height of the column does not seem to be greater than half of the band, since it is made out of the band folded over, we must understand that it is as much greater than half the band as 30 is greater than 25, but this could not be represented on a plane. Moreover, since one half of the band alone has the height of the column, [col. 684] I will explain why both have been drawn.

Chapter Two

5. The column that is raised up in the middle of the Ark signifies the Tree of Life, which was planted in the middle of Paradise, that is, it signifies Our Lord Jesus Christ, in the form of the humanity which He assumed, planted in the middle of the church. But Christ is both

God and man. And therefore, the side of the column that looks to the north signifies His humanity, which He assumed for the sake of the sinners; moreover, the side that looks to the south represents His divinity, by means of which He nourishes the minds of the believers. This is why we drew the height twice in the plane, since we needed to represent the surface of each side, which could not be done without doubling the drawing.

6. And so, now that the column is standing in the middle of the Ark, set up a timber from each corner of the Ark to its top, and join the timbers to the top under the protuberance on the outside rim. Then, raise up the two inner rectangles until each is joined by those very same timbers, according to its position in the plane, with the outermost rectangle remaining below. Now, the space between the lowest rectangle and the next is called the first room; the space between the next two is called the second room; and the space between the highest rectangle and the cubit is called the third room. Now you have the finished shape of the Ark: it is wide at the bottom, and above it narrows to the measure of one cubit. The position of the middle column is such that it rises up from the middle of the floor of the Ark. It occupies the middle position in each of the rooms and supports the whole structure. The significance of this structure is as follows. The column is Christ; its southern side (which signifies His divinity) is called the Tree of Life, and therefore it is colored green; its northern side (which signifies His humanity) is called the Book of Life and is colored blue. The Ark leans on this column, and the Church leans on Christ, since it surely would be unable to stand without His support, as is written in the Song of Songs: “Who is this woman who is coming up from the desert, rich in delights, leaning on her beloved?” (Sg 8: 5). Moreover, just as the column extends through the height of the individual rooms, so Christ apportions the virtue and progress of each individual. Just as the column sets apart the stations, so Christ in accordance with His own judgment distributes the gifts of grace in the Holy Church, making some prophets, others apostles, others evangelists, and letting others share in other sorts of spiritual gifts. And just as the column occupies the middle space everywhere, so the Lord Jesus Christ says: “Wherever two or three people have come together in my name, there I am also in their midst” (Matt. 18: 20). If our weakness is so extreme, [col. 685] that we are not able to ascend into the third, or even the second room, let us not lose hope, but let us come together as one through faith in His name, and let us be at least in the first room and as one with the Church. Let us keep our faith inviolate, and Christ himself will come to us and stand in our midst, celebrating with us our good effort, prepared to help us and to lift us up higher, so that He may be One in all, and One amid all, and One

above all, the Lord Jesus Christ.

Chapter Three

7. Next I will demonstrate the significance of that other band that extends through the middle of the floor of the Ark along its length from one side to the other. Now, if the Ark means the Church, then the length of the Ark means the length of the Church. The length of the Church is its temporal duration, just as the width of the Church is its number of affiliated peoples. For we say that the Church grows wider when the number of believers increases and many join the faith. The length of the Church is its extension in time: going from the past through the present into the future. Its extent in time is from the beginning of the world until the end, because the Holy Church began from the beginning of the world in its faithful and will remain until the end of time. We believe that there has been no time from the beginning of the world to its end in which there were no people who had faith in Christ. And so, this band, which extends from one side of the Ark to the other, signifies the course of time from the beginning of the world until the end of time. The first half of this band, moreover, which goes from the bow of the Ark up to the column, signifies all the time from the beginning of the world until the Word was made flesh; the second half signifies all the time from the incarnation of the Word until the end of time. Therefore, in the upper half, from the bow of the Ark upward to the column, the line of generations of the flesh from Adam to Christ is written. In the other half, from the column downward, are written the names of the apostles from Peter following the order in which they succeeded one another in the government of the Church, as spiritual sons succeeding spiritual fathers. For from Adam to Christ was the old generation, the generation according to the flesh, and, for that reason, the passage of time in the earlier part of eternity is marked through the generations of the flesh. But since in Christ there was a new generation, the generation according to the spirit, the passage of time in the later part of eternity is marked through the generations of the spirit.

Chapter Four

8. I arrange these generations by dividing the front half of the Ark, going upward to the column,[6] into three equal parts, and each third is a sixth of the whole length. [col. 686] Then, I begin from the bow of the Ark, below, and write Adam's name first in the following way. On the foremost part of the Ark I make a small square to signify the four parts of the world. Then, on its top side, which is the east side, I put an A, the first letter in Adam's name. On the bottom side, which is the west side, I put a D, the second letter. On the right side, the north, I

put an A, the third letter. On the left side, the south, I put an M, the fourth letter. In Greek, the names of the four parts of the world begin with these letters. Anatole, which means east, begins with A, and therefore the letter A is placed on the east. Dysis, which means west, begins with D, and therefore D is placed on the west. Arctos, which means north, begins with A, and therefore another A is written on the north side. Mesembria, which means noon or south, begins with M, and therefore an M is placed on the south side. Some people say the reason is this: it is appropriate that the first parent takes the letters of his name from the four parts of the world, since, through his descendants, he would later spread through every part of the world.[7] After Adam, I write, according to the line of descent: Seth, Enosh, Kenan, Mahalalel, Jared, Enoch, Methuselah, Lamech, Noah, Shem, Arpachshad, Shelah, Eber, Peleg, Reu, Serug, Nahor, Terah, Abraham, Isaac and Jacob.[8] These belong in the first part.

9. On the second part I write Judah first, and then around him on both sides I arrange the other patriarchs as follows: beginning on the right in order of their birth, I write Ruben first, since he was the first-born; then Simeon, then Levi, on Judah's right side. These four were sons of Leah. Then, on Judah's left side, also in order of birth, I write Dan, then Naphtali, both sons of Bilhah, Rachel's handmaid. After Naphtali I put Gad, then Aser, sons of Zilpah, Leah's handmaid. Then Issachar, then Zabulun, sons of Leah again. Then, finally, Joseph and after him Benjamin, sons of Rachel. Next, above each of the names, I put their images from the chest upward, the sort of images that are sometimes drawn in tablets, which the Greeks customarily call icons, so that the twelve patriarchs arranged in their places transversely, across the width of the arc, appear as though they were the senate of the City of God. Then, returning to the line of generation after Judah, I write Perez, Hezron, Aram, Aminadab, Nahshon, Salmon, Boaz, Obed, Jesse, David, Solomon, Rehoboam, Abijam, Asa, Jehoshaphat, Jehoram, Ahaziah, Jehoash, Amaziah, Uzziah, Jotham, Ahaz. And these are in the second part.

10. Then, on the third part are placed, in this order: Hezekiah, Manasseh, Amos, Josiah, Jehoiakim, Jechoniah, Salathiel, Zerubbabel, Abiud, Eliakim, Azor, Zadok, Achim, Eliud, Eleazar, Matthan, Jacob, Joseph. Between Joseph and the column [col. 687] I write: "to this point the first Adam according to the flesh." Next, I divide the remaining half, from the column downward, into three equal parts. The sides of the rooms of the Ark mark off these three parts above and below where they intersect the belt, according to their position in the plane. Next, after the column, in the same line, I put Peter first, and around him, on his right and left the other apostles with their icons, six on the right and five on the left, so that the twelve patriarchs are

depicted on one side of the column and, on the other side, the twelve apostles, like the twenty-four elders sitting around the throne in the Apocalypse. And just as the twelve patriarchs cover the width of the Ark above (because that whole ancient nation of the old law descended from them according to the flesh), so the twelve apostles cover the width below, because the whole nation of the new law of grace was perpetuated spiritually by them through faith. Then after Peter follow: Clement I, Anacletus, Evaristus, Alexander I, Sixtus I, Telesphorus, Hyginus, Pius I, Anicetus, Soter, Eleuterius, Victor I, Zephyrinus, Callistus I, Urban I, Pontian, Anterus, Fabian, Cornelius, Lucius I, Stephen I, Sixtus II, Dionysius, Felix I, Eutychian, Gaius, Marcellinus, Marcellus I, Eusebius, Miltiades, Sylvester I, Mark, Julius I, Liberius, Felix II, Damasus I, Siricius, Anastasius I, Innocent I, Zosimus, Boniface I, Celestine I, Sixtus III, Leo I, Hilarius, Simplicius, Felix III, Gelasius I, Anastasius II, Symmachus, Hormisdas, John I, Felix IV, Boniface II, John II, Agapitus I, Silverius, Vigilius, Pelagius I, John III, Benedict I, Pelagius II, Gregory I, Sabinian, Boniface III, [Boniface IV], Deusdedit, Boniface V, Honorius I, Severinus, John IV, Theodore I, Martin I, Eugenius I, Vitalian, Adeodatus II, Donus, Agatho, Leo II, Benedict II, John V, Conon, Sergius I, John VI, John VII, Sisinnius, Constantine, Gregory II, Gregory III, Zacharias, Stephen II, Paul I, Stephen III, Hadrian I, Leo III, Stephen IV, Paschal I, Eugenius II, Valentine, Gregory IV, Leo IV, Sergius II, Benedict III, Nicholas I, Hadrian II, John VIII, John [sic], Marinus I, Hadrian III, Stephen V, Formosus, Boniface VI, Stephen VI, Romanus, Theodore II, John IX, Benedict IV, Leo V, Christopher, Sergius III, Anastasius III, Lando, John X, Leo VI, Stephen VII, John XI, Leo VII, Stephen VIII, Marinus II, Agapitus II, John XII, Benedict V, Leo VIII, John XIII, Benedict VI, Domnus [sic], Boniface VII, Benedict VII, John XIV, John XV, John XVI, Gregory V, John [sic], Sylvester II, John XVII, John XVIII, Sergius IV, Benedict VIII, John XIX, Benedict IX, Sylvester III, Gregory VI, Clement II, Damasus II, Leo IX, Victor II, Stephen IX, Benedict X, Nicholas II, Alexander II, Gregory VII, Victor III, Urban II, Paschal II, Gelasius II, Callistus II, Honorius II.[9] And the space that remains up until the end of the Ark will receive those who are yet to come after us until the end of the world. The first age of the world, from Adam until the Flood lasted 1656 years. The second, from the Flood until Abraham, lasted 292 years.[10] The third, from Abraham until David, 942 years. The fourth, from David until the emigration,[11] 475 years. [col. 688] The fifth from the migration until the advent of Christ, 585 years. The sixth age, now in progress, has no certain progression of years: it is a feeble age that will be consumed in the death of the whole world. Those who conquer these wretched, toilsome ages of the world with a blessed death, will be taken up now

to the seventh age of eternal Sabbath, and there await the eighth age of the blessed resurrection, in which they will reign eternally with the Lord.

Chapter Five

11. Next, I divide the Ark into three parts, and the first part, from the beginning to the twelve patriarchs, I call the time of natural law. The second part, from the twelve patriarchs to the column, i.e., until the Incarnation of the Word, is the time of the written law. The third part, from the column downward, i.e., from the Incarnation of the Word to the end of the world, is the time of grace. Now I mark the walls of the Ark on both sides according to these divisions. Then, on both sides of the Ark, through the dividing lines, I draw three bands of color. The bands are joined together at the sides as though they were timbers extending along the length, and I give each an appropriate width. The exterior band, since appearing outside, ought to be wider than the others. The interior band is the next in width. The middle band, since it is crowded in between the other two, will have the smallest width. The positions of these bands is to be alternated in the following manner.[12] The one that is exterior in the first part, should be in the middle in the second part, and the one that is in the middle in the first part, should be interior in the second part. And the one that is interior in the first part should be exterior in the second part. And again, the one that is exterior in the second part should be in the middle in the third part, and the one that is interior in the second part should be exterior in the third part.

12. The significance is this. These three colors signify three types of men: men of natural law, men of written law, and men of grace. For just as there are three times: the times of natural law, of written law, and of grace, so there are three sorts of men: men of written law, of natural law, and of grace. The men of natural law belong to the time of natural law. Likewise, the men of the written law belong to the time of written law, and the men of grace to the time of grace. Nevertheless, if we look carefully, we find all three sorts of men in each of these times. For instance, in the time of natural law there were men both of the written law and of grace, but the men of natural law were then at home, and the men of written law and of grace were in foreign territory. For the time of natural law properly belongs to the men of natural law, since they were then more in number, more conspicuous in their way of living, and of better status. The men of written law and the men of grace, however, were few in number, and less dominating in their conduct. It is likewise with the time of written law and the time of grace. Let me explain, now, just who the men of natural law, of written law, and of grace are, [col. 689] so that by

making this distinction among them, I may be able to draw together more easily what I have to say about them. The word "nature" is understood three ways in Holy Scripture. First, for that pure and unspoiled nature in which the first man was created. With this meaning we say that all things are by nature good. The second meaning of nature is that corruption of sin in which man is born. With this meaning, the Apostle said: "We are children of wrath by nature" (Eph. 2:3), that is, by our birth, which is corrupt and bound to sin.[13] In addition, nature is also understood as the traces of the natural good, which remained in man after sin. The natural good in man could be corrupted through sin, but not utterly destroyed, since a certain spark of natural reason still burns in the mind of man. By virtue of this spark, the mind can discern between good and evil, as the Apostle said: "When the nations who have no law naturally do the things of the law, without having a law of the sort, they are a law unto themselves" (Rom. 2: 14). Therefore, men of the natural law are those who, without having another law, organize their morals and life with natural reason. Or, it is also possible that men of the natural law are those who walk in the corruption of sin, with which they were born, pursuing in lust the desires of their flesh. Men of the written law are those who have greater knowledge, and who take their way of life from the traditions of the Scriptures and from the precepts that are good and right. The men of grace are those "into whose hearts the Holy Spirit, who is given to them, pours out love" (Rom. 5: 5), through which they are enlightened, so that they know what should be done. And the Holy Spirit helps them be able to do the good that they have deserved to perceive. Thus we can understand how these three sorts of men all existed in the time of law. For there were men then who were just, although few and still practically unknown to the world, whom God kindled to His love through the Holy Spirit. He even appeared to them in visible form often. He made himself familiar to them in shared conversations, and laid open the path of truth by speaking to them outwardly and inspiring them inwardly. These were the men of grace. There was also another sort of men, who knew those just men rather well, perhaps by being related to them or from nearness of conduct. These men, when they had learned from the words and deeds of the others many examples of justice and moral discipline (not examples of virtue, but of a certain goodness in this life), copied the others. Such were all the bad sons of religious men, or the neighbors, or some even some of the friends, who held to their teachings not through love, but through a particular habit of living. This sort of people is like the men of the written law. The rest of the human race was guided neither by divine commandments nor by human customs, but each one's will was his law, and, so long as

whatever gave pleasure was permitted with impunity, everyone pursued the path on which he was naturally impelled–either the natural impulse of the flesh toward lust, or of the reason to some form of justice. And therefore these men deserve to be called men of the natural law, [col. 690] since they were guided only by a natural impulse, either of lust or of reason. Lust, as I said above, is called natural, because man is conceived in it and born with it. But reason is called natural because man retains it still from his first creation. Therefore one is natural by creation, and the other by birth. The one is natural because we received it when we were first created, and the other because we brought it into this life with us and in us when we were born. This sort of men lived in the first ages of the world, when there was no law to punish sins. Men sinned freely and did not conceal their sins. Some of them did not believe in the existence of sins, while others acknowledged it, but thought[14] that sins could be undone with an easy penance. But after the law entered the picture and showed men their sins, and, at the same time, condemned these sins, forbade them, and imposed a punishment, men began to hide their sins and to exhibit publicly certain works of virtue, not in order to fulfill justice, but rather to avoid punishment. Thus the men of the written law increased in number. The men of the natural law, however, became very scarce, and the men of grace began to be a little bit more conspicuous than they had been, since the good law, in that it summoned men to justice, made the life of the just men more distinguished. But after grace arrived and the rigor of the law was transformed into mercy, the men of the natural law increased in number again, since the same men who had hidden out of fear of punishment began pursuing their vices openly. The men of the written law, in turn, grew more scarce. This time is called a time of grace, since now the men of grace, though they are not greater in number, are more distinguished in stature. For though few people adhere to the truth, almost everybody recognizes it, and the common discretion of all prefers it. And now it is generally known that "man is not made just by works of the law, as had once been thought, but by the grace of God" (see Rom. 3: 24–28). And therefore, whatever the age, the men of natural law are openly bad, the men of the written law pretend to be good, and the men of grace are in truth good. Some of the men of natural law are outside the Church, the infidels, for instance, and some are inside the Church, as are those who have faith alone without works. But they are by no means of the Church, since they are not good. Men of the written law are only in the Church insofar as they have faith. They are not of the Church, however, because they are not good. Only the men of grace are in the Church and of the Church, because they have faith and are good.

13. Now here is the significance of the three bands of color that we have arranged on the sides of the Ark, green, purple, and yellow: Green, which in the time of natural law is on the outside, signifies the men of natural law, who at that time were more conspicuous. Green is in the composition of the Ark, but is not like the Ark: it is like the land outside of the Ark. [col. 691] [The Ark, however, which on the inner side of its walls is decorated with different colors according to the different rooms within, ought not to be covered in green only in that part where the men of natural law are inside, nor should it be covered in yellow where the men of written law are inside, but, where the men of grace are, it should be purple, since only this likeness corresponds to both, in the way that the surface of the earth by virtue of its green color is fitting for the men of natural law inside.][15] Yellow, however, is put on the inside in the time of natural law, because it signifies the men of the written law, who, as the prophet said, "were nourished in saffron" (Lam. 4: 5). They were hidden then, and this color is in the Ark, but it is like the earth, since these men pretend to be good, but are not like those who are in their deeds openly nonbelievers and also not like those who are believers inwardly in their virtue. Purple, however, in the time of natural law, lies between the two as though hemmed in. Because of its royal glory, it signifies the men of grace, who were then quite well hidden. Purple is in the Ark, both in its placement and its likeness, because the men of grace, in that they have faith, are in the Church, and in that they have virtue, are good. The position of these colors is to be varied in the other times, according to what the sense demands. Likewise, the men of natural law are those who have only a faith that is dead without works. Men of the written law are those who have faith and the works of faith, but do not have charity. Only the men of grace have faith that works through love.

Chapter Six

14. Next I turn my hand to the width of the Ark, and, beginning from the right side, I extend two timbers upward to the line of generation, and from there, that is, from the line of generation to the left edge, I draw two timbers, the same ones, but transposed. Then I extend two timbers in the same place from the right side to the left, with a continuous stroke and without transposing. When the sides are so composed on the length and the width, I give them titles. On the right side from one end to the other I write, "Its length was three hundred cubits." Opposite that on the first part of the left side I put: "time of natural law," and in the second part, "time of written law," and in the third part, "time of grace." Since the first centenary is the time of natural law; the second, the time of written law; the third, the

time of grace. On the right side, from right to left I write, “fifty cubits was its breadth.” Opposite this, on the left, I write, as an explanation of this phrase, “the community of all the faithful under one head, Christ.” On the right side, above the heads of the two beams that go lengthwise, I write “Mount Zion”; in the left, I write “The Northern Parts”; underneath, in the middle I write, “City of the Great King.” The two beams on the right signify Mount Zion, that is, the Jewish people of both sexes; and the two beams on the left, the northern parts, that is, the gentile people, also of both sexes, crowding into the faith and making one City of God: the Church, that is, out of both. This is why on the right the beams were transposed and the titles divided. On the left, however, there is one line of writing and one title, since these two peoples had been divided among themselves, but afterward were united in their faith in Christ. Then on the right edge, above the heads of the three beams that extend lengthwise, I write crosswise “MEN”; and next on the left edge, as though clarifying this caption, I write on the top of the exterior beam, “NATURE”; on the top of the interior beam, “LAW”; and on the top of the middle beam, “GRACE.” These three beams on both sides signify men of natural law, of written law, and of grace, whom we have already discussed.

Chapter Seven

15. These are the inscriptions of the rooms: on the right side of the first room “FAITH” is written, on the right side of the second room, “HOPE,” and of the third room, “CHARITY.” On the left side of the first room “KNOWLEDGE” is written, of the second room, “DOCTRINE,” and of the third room, “GOODNESS.” On the top side of the first room is written, “NATURE,” of the second room, “LAW,” and of the third room, “GRACE.” On the bottom side of the first room is written “RIGHT,” of the second room, “USEFUL,” of the third room, “NECESSARY.” This last division harmonizes with each of the others thus: faith is right, hope is useful, charity is necessary; likewise, knowledge is right, teaching is useful, goodness is necessary; likewise, nature is right, law is useful, grace is necessary. There are still more distinctions made in the height of the Ark. The first room is for the married, the second for the continent, the third for the virgins. Or thus: the first room is for those who use the world; the second, for those who flee the world; the third, for those who have forgotten the world. Or thus: the first room is for the crawling; the second, for the walking; the third, for the flying.

16. Likewise for those ascending from the individual corners: for those ascending from the cold of the east, that is from pride, the first room is fear, the second, grief, the third, love.[16] For those ascending from the warmth of the west, that is from the lust of the flesh, the first

room is patience, the second is mercy, the third, remorse. For those ascending from the cold of the west, that is from ignorance, the first room is thought, the second, meditation, the third, contemplation. To those ascending from the warmth of the east, that is from the fervor of the spirit, the first room is temperance, the second, wisdom, the third, strength. Thus twelve ladders ascend from the four corners of the Ark: three from each corner, four in each room, different ones in different corners. And each ladder has ten steps, which is 120 steps altogether, 60 and 60. Through these steps sixty men and sixty women ascend to the highest cubit, as though to God himself, in different ways through the individual ladders. They are like the sixty strong men who "surround the bed of Solomon" (Sg 3: 7) and the "sixty queens" (Sg 6: 8) who ascend to Solomon's embrace. "Through twelve ladders" means through the teaching of the apostles; "through ten steps" means through the ten commandments of the law. And "from the four corners of the world" means imbued with faith in the Trinity and the [col. 693] teaching of the evangelists.

17. From the cold of the east upward are written the thirty books of Sacred Scripture in order, ten in each room, that is, each book to one of the steps on the side of the ladder outside in order. And each book is divided into three steps on the outside, according to the threefold sense, that is: historical, allegorical, and tropological. In the same quadrant, on the first ladder I write, from bottom to top: "Here ascend those who fear hell, with Isaiah calling and saying: 'Their worm will not die, and their fire will not be put out'" (Isa. 66: 24). I take this verse from Isaiah because this is the highest book on this ladder, and this book ends this way. This verse is divided into three steps outside because of the three things that in Ezekiel are called lamentation, song, and woe. Lamentation belongs to the present misery; song, to the future glory; woe, to hell. And it is fitting that those who make progress through fear not only fear hell, but also grieve about the misery now present and love the glory to come. But nevertheless, fear is the principal thing on this ladder. On the second ladder I write: "Here ascend those who mourn the exile of the present life, because of the vessels of the Lord's house that were taken away captive into Babylon." This is written there because it is narrated at the end of the Book of the Paralipomenon (2 Chron.), which is the last book on this ladder. This verse should likewise be divided with three steps in each of the steps of the second ladder, because of the three things mentioned above, but here grief is the principal one. On the third ladder is written: "Here ascend those who sigh for their native land, who await the return of their spouse, saying, 'Come, Lord Jesus Christ'" (Rev. 22: 20).

18. Likewise, from the cold of the west upward the same thirty

books are listed that were written in the previous corner, ten in each room, since the two corners that are distinguished by the series of books correspond to the north side, which is called the Book of Life. I will discuss the mystic sense of this at more length later. And just as we did above, we will mark off each book with three steps along the ascent. On the first ladder I write upward: "Here ascend those who, lacking knowledge, receive their first thought of God in His creations," since Scripture teaches us, saying: "In the beginning God made the heaven and the earth" (Gen. I:I), Genesis being the first book on this ladder. This verse, moreover, should be divided from the bottom upward with three steps, signifying the three things to be admired in God's works: measureless size, beauty, and usefulness. Measureless size pertains to His power; beauty, to His wisdom; and usefulness, to His kindness. If anyone wants to know more about this, he should look at the treatise that I wrote on the three days.[17] On the second ladder is written: "Here ascend those who stay awake meditating on the divine law for training in how to live correctly, listening to the Scripture: 'I made you so that you could tear out and destroy and scatter and shatter and build and plant'" (Jer. 1: 10). This verse [col. 694] is found in the book of Jeremiah, which is the first book on this ladder. This verse should be divided outside in two steps, because of the two things necessary to live rightly, which the Psalmist mentions, saying "Avoid evil, and do good" (Ps. 37: 27). On the third ladder is written: "Here ascend those who thirst to gaze at light of inner sight with the pure inner eye, as though ascending from Babylon to Jerusalem" (cf. Ezra 7: 9–10). One reads of this in Ezra, which is the first book on this ladder. This verse does not have a division, but should be colored with one color from the bottom upward, because contemplation has one form and is simple.

19. Likewise from the warmth of the west on the first of the three ladders from the bottom upward the following verse should be written in one unbroken line: "Here ascend those who fled from the heat of vices to the Tree of Life, and hide themselves under its branches as though under shade in the noonday heat" (cf. Sir. 34: 19). This verse should be divided from the bottom upward into seventy-seven steps (two of the chambers will have twenty-six steps, and one will have twenty-five). These steps signify that which was said in the Gospel about forgiveness of sins: "seventy times seven" (Matt. 18: 22). Seven usually represents the universality of the thing to which it is applied, while eleven signifies transgression. Therefore seventy-seven signifies every transgression, which is what is forgiven for those who ascend here. On the other side of the first ladder is written: "here ascend those who through abstinence and affliction mortify 'their limbs, which are upon the earth with vices and lusts'" (cf. Col. 3: 5). And this

verse should be divided with forty steps, since forty is the sign of fasting. On the second ladder is written: “Here ascend those who make good their past sins with alms and other works of mercy” (cf. Dan. 4: 27). And this verse should be marked with forty-six steps, because alms joined to abstinence, as six with forty, make a perfect work. On the third ladder is written: “Here ascend those who continually offer sacrifice to God in an odor of sweetness, with contrite heart and afflicted in spirit” (cf. Ps. 51: 17). And this verse should be divided into fifty steps, since this number is the sign of forgiveness and freedom, because as soon as a man begins to practice these three things, abstinence, alms, and remorse, he will find immediate forgiveness of his sins, and the comfort of the Holy Spirit, as a beginning of true freedom.

20. From the warmth of the east, which is the last corner for those returning and the first for those leaving, is written in one unbroken line: “Here ascend those who have not yet gone over from bad to good, but have progressed from good into better–those whom the Tree of Life feeds and carries forward.” This verse (on the first ladder) should be divided into thirty steps, because of the first order of the faithful who were in the Holy Church as married people and who are represented in the Gospels by the thirtyfold profit. In the second ladder a division into sixty steps is made: this number corresponds to the chaste. In the third ladder, into one hundred: this number corresponds to the virgins. Nothing is higher than they, because they lead a celibate, heavenly life. On the other side of the first ladder, this verse is written: “Here ascend [col. 695] those using the world in the way that is permitted, like the creeping things in the Ark, and like the sons of Israel eating and drinking in the field, and seeing God’s glory from a distance” (cf. Exod. 19: 17). This verse is divided into five and a half steps, because it is a good work, but less perfect. Its perfection is in the full six, which these people cannot yet grasp. On the second ladder is written: “Here ascend those forgetting and fleeing the world like the four-legged creatures walking into the Ark, and Aaron with the elders of the sons of Israel ascending the mountain” (cf. Exod. 24: 9). This verse is divided into six steps, because of the perfection of the work to which these people have already progressed. On the third ladder is written: “Here ascend those who have forgotten the world like flying things in the Ark, and Moses alone upon the mountaintop in a cloud with the Lord” (cf. Exod. 24: 18).This verse is divided into seven steps, because this sort of person also has peace of mind along with perfection of work. These steps should always be written onto the verses outside, so that the verses themselves extend upward between the steps and the ladders, and they should always be marked with different colors. I use green for the historical significance, yellow

for the tropological, and blue for the allegorical.

Chapter Eight

21. Now let us return to the allegory of the ladders. For those ascending from the cold of the east the first ladder is fear; the second, grief; the third, love. For those ascending from the cold of the west the first ladder is thought; the second, meditation; the third, contemplation. For those ascending from the warmth of the west the first ladder is patience; the second, mercy; and the third, remorse. And these three scales bring justice to perfection. In the fourth ladder, the other three virtues follow. For those ascending from the warmth of the east, the first ladder is moderation; the second, wisdom; the third, strength. These four virtues have been drawn in their places. I make the four corners correspond to the four parts of the world, from which the elect of God come to ascend to the prize of heavenly reward: from the warmth of the east, from the cold of the east, from the warmth of the west, and from the cold of the west. The warmth of the east is spiritual fervor, the cold of the east is the swelling[18] of pride. The warmth of the west is the lust of the flesh, the cold of the west is the blindness of ignorance. The first man was created in the warmth of the east, and afterward he crossed over by being proud into the cold of the east as though to the north and to partnership with the devil. Then through lust of the flesh he fell to the warmth of the west, and, through ignorance, to the cold of the west. And in this fashion he spread through the four parts of the world and was dispersed. When he is gathered and called together, first from the four parts of the world he approaches the Ark, which is the Church, and ascending upward from there he gathers himself into a whole little by little, until he reaches the highest point. But where he first fell, he first ascends, that is, from the cold of the east, and there he treads upon the head of the serpent, that is, pride. Next he ascends from the warmth of the west, and there he treads upon the belly of the serpent, that is, lust. Next he ascends from the cold of the west and there he treads upon the chest of the serpent, that is, ignorance. Next he returns [col. 696] to the warmth of the east, where he was first created, and, ascending from there, he presses the whole coiled serpent down, in such a way that the last among those ascending seems to tread with his foot on the serpent that has wrapped himself around both bases of the ladder. The two bases are the soul and the body, which the serpent has wrapped himself around in that he prevailed up to this point in each of these in some way. But those who ascend through the steps, that is through the divine commandments, push the serpent down everywhere. Moreover, the four evangelists are also drawn in the four corners of the Ark. In the cold of the east is the lion, to frighten those

who are swollen. In the cold of the west is the eagle, to give light to the blind. In the warmth of the west is a calf, to slay the flesh. And in the warmth of the east is the man, to call man back to his origin. Through the Book of Life, which faces the north, ascend those from the cold of the east and from the cold of the west, and therefore a hand with an open book stretches downward from the top of the lower ladder on the inside, coming from the Book of Life, chastising on one side and teaching on the other. On one side, the reproof is written: "Woe woe woe!" (Rev. 8: 13), and on the other, the teaching of Judah: "In the beginning God created the heaven and the earth" (Gen. I:I). These phrases are written according to the significance of each of the ascents. On the Tree of Life ascend those coming from the warmth of the east and the warmth of the west. Therefore two branches extend downward from the top of the ladder, one on each, one with leaves, the other with fruit; both come from the Tree of Life, nourishing some and offering shade to others. The virtues, moreover, are depicted opposite each ladder on the inside, in the following way.

Chapter Nine

22. Fear ascends first from the cold of the east opposite the Book, naked, since it has thrown down the clothes of pride, because of the fire and worms that are drawn under the foot of the ladder. On the second ladder, Grief is depicted, and next to it the carrying away into Babylon beginning with Joachim and then coming down crosswise up until the foot of the second ladder and finally leaving the Ark for Babylon, which is located at this point on the map of the world. Next to the third ladder, Love is drawn as one of the virgins with a burning lamp and a container of oil, awaiting the arrival of her betrothed. Each of the virtues reaches upward with one hand, in the position of someone climbing. The following difference must be observed, however: people ascend on the ladders, the virtues are placed inside next to the ladders in the open spaces. In the warmth of the west, next to the foot of the first ladder, a woman, naked to the waist, comes from a cave, covered by the leaves of the aforesaid branch. Opposite her, at her side, the kindler of vices breathes fire from his mouth and nose, to express lust. A little higher on the same ladder, a naked man is beaten with rods, to stand for patience. On the second ladder, someone is giving alms, to signify mercy. On the third ladder, a man striking his chest is drawn, like someone praying, to signify remorse. All the virtues ought to look upward, so that nothing is done for the sake of the praise of men. From the cold of the west next to the foot of the first ladder, someone coming out of a cave, with his face covered, [col. 697] falls down, and striking a rock, breaks the jar that he is carrying. This figure stands for ignorance, which destroys the

wholeness of the soul with its various errors. Next, on the same ladder opposite the book that is offered by the hand extending downward, Thought is depicted standing [next to the pieces of the broken jar]. As I have already said, in the Book is written: “In the beginning God created heaven and earth,” because the first thought of God is in his creations. On the second ladder sits Meditation, collecting the pieces of the broken vase. On the third ladder, Contemplation is drawn, like a smith, joining the pieces so that the liquid seems to run through the band of color (that I drew next to this verse above) into the middle cubit as it were through a pipe into a mint for coins. Here is the figurative meaning: the integrity of the soul, which ignorance breaks to pieces, thought finds again, meditation collects, and contemplation, by melting it with the fire of divine love, pours it back into the mint of divine likeness to be formed anew.

Chapter Ten

23. From the warmth of the east, next to the first ladder, Moderation is drawn, in the likeness of a man of substance sitting at the table, eating and giving alms, like someone who uses the world as is permitted. On the second ladder Wisdom is drawn, in the likeness of a pilgrim walking, like one who flees the world. On the third ladder, Strength is drawn, covered below with a cloud, like one who has trodden the world underfoot and is raised up on high, with hands extended upward. It must be observed, however, as I have already said, that the virtues are placed next to each ladder on the inside, the people, however, on the ladders on the individual steps, men and women alternately, sixty strong men of Israel and sixty queens. Let us go over again the number and order of the virtues that I have already mentioned. For those in the cold of the east ascending from pride, the first ladder is fear; the second, grief; and the third, love. For those in the warmth of the west ascending from lust, the first ladder is patience; the second, mercy; the third, remorse. For those in the cold of the west ascending from ignorance, the first ladder is understanding or thought; the second, meditation; the third, contemplation. For those in the warmth of the east, not ascending from vice, but making progress through virtue, the first ladder is moderation; the second, wisdom; the third, strength. There is the consummation of the perfect life. The first ascent, from the cold of the east, is in the emotions. The second ascent, from the warmth of the west, is in works. The third ascent, from the cold of the west, is in thought, and the fourth ascent from the warmth of the east, is in the virtues already treated. There are many things that could have been said about these things that we must skip over here out of necessity.

Chapter Eleven

24. We make the door of the Ark thus, since the column signifies Christ, who said, “I am the door” (John 10: 9). The column, for the reasons already mentioned, is presented twice in the Ark, that is, in two sides. And for that reason, in each side of the column, that is, in the Book of Life facing north, and in the [col. 698] Tree of Life facing the south, we draw the door downward. But just as we drew through the Book of Life signifies faith, through which we enter from disbelief into the Church. (This happens through the humility of Christ, through which we are called.) This door ought to be closed, so that we can not return again to our ancient errors. The door toward the south through the Tree of Life signifies the passing from this life over to the glory to come, that is, to the fruit of the Tree of Life. And this door is open, because we ought always to turn the eyes of our mind in this direction, so that we can leave this misery as soon as possible. I alluded to yet another thing with this door. For, since the door opens downward and the window (that I made above Remorse with an extended hand and a dove) upward, the door is fit to signify an exit through work, and the window, an exit through thought. We exit through deeds in four ways. For every action is either worldly or spiritual. One way is to be a slave to worldly acts out of greed, like an unclean animal. Another way is to discharge them out of necessity, like a clean animal. A third way is to take up spiritual works out of greed, as a wicked person would. The fourth way is to act for the utility of your neighbor and the praise of God, as a good man would. And therefore, I draw four animals going out the door: the ass, an unclean animal; the cow, a clean animal; the good man, Noah; the wicked man, Ham. God opens the door to the good man, but the wicked man, going out disobediently another way, breaks the hinges.

Chapter Twelve

25. Likewise, we exit through thought in four ways. The first way is to consider what every creature is in itself. The second way is to consider what every creature is thanks to its creator. The third way is to consider how God uses the services of his creatures to carry out his judgments. The fourth way is to consider how man uses the benefit of God’s creations to fulfill his own desires. In themselves all things are meaningless and transitory. Thanks to their creator, they are everlasting. So long as they serve God, they are tools of justice. Whenever they serve man, they become tools of lust. The raven went out this way; he found a dead body and sat upon it. I discussed all these things more fully in my book about the Ark.[19] The three previous ways belong to the dove, that is, they are three sorts of good thinking, namely: thought, meditation, and contemplation. We think

about vanity, we meditate upon justice, we contemplate eternity.

Chapter Thirteen

26. Now let us see how the little rooms should be arranged. Some people say these little rooms were nests, that is, certain compartments constructed outside the wall of the Ark for the sake of those animals that could not spend all their time either in the water or on dry land, but who instead must go back and forth [col. 699] from water to dry land and from dry land to water again. Since the Ark could not be opened for them so many times, Divine Providence arranged, so that not even these should perish, that little compartments for them be constructed outside the wall of the Ark. The entrance of these compartments would always be open to the outside, but the wall of the Ark would remain intact inside. This is supposed to be arranged in this way so that, while the Ark was borne on the water, those ascending outside through the water would be able to get in by way of the deck.[20] Scripture does not tell the number of these compartments. In spite of that I put six little rooms in the Ark, in likeness of the six cities that are allotted to murderers as a refuge, because it has just about the same significance (Num. 35: 6, 15). I do this in the following way: first I lead the river Jordan through the middle of the Ark, that is, from one wall to the other next to the side of the column above, in the likeness of baptism, which in the Holy Church is the end of law and the beginning of grace, whose holy water flowed from the side of Christ. And, since it is commanded that six cities be founded, three on this side of Jordan, and three on the further side (Num. 35: 14), we have followed this pattern as we placed our little rooms, putting three beyond Jordan, i.e., in the upper part of the Ark, and three on this side of Jordan, i.e., in the lower part of the Ark. The first one is placed above in the bow of the Ark, i.e., in the beginning of natural law. The second and third are put in the written law, that is, over the bank of the river Jordan in one direction and the other. The fourth, fifth, and sixth little rooms are in the time of grace: two under the apostles, opposite the two in the superior part in both directions, and one in the end of the Ark opposite the first. Thus, natural law has one, written law has two, and grace, three. The figurative meaning of these little rooms is this. The Ark signifies the Church; the flood, the lust of this world. The animals, which go back and forth repeatedly from the Ark to the water and from the water to the Ark, signify the weak people and the fleshly people in the Church, who often slip by sin into the desire of this world. For these people the remedy of repentance is prepared, like little rooms in the spiritual Ark, that is, in the Holy Church. Of these little rooms natural law has one: sacrifice. Two are given to the written law: offering and cleansing. Grace,

however, opposite the three carnal ones, has three spiritual rooms: confession, prayer, and mortification of the flesh. Confession offers for sacrifice, prayer purifies, and mortification of the flesh kills. Next, between natural law and written law a gate[21] is opened on both sides, and through the one that faces north the captive nation of Israel is led out of Jerusalem into Babylon. Through the one that faces south, that same nation, after having been liberated from Egypt, enters, headed for the promised land. It will be clear how this is appropriate even according to the locations of these places from the drawing of the map of the world, since Babylon is to the north of Jerusalem, and Egypt is to the south. And therefore I draw forty-two rooms on the inside of the wall of the Ark from the gate through which the nation entered up to the bank of the river Jordan.[22] Through these rooms God's people progressed spiritually from the Egypt of the natural law through the desert of the written law to the promised land of grace. [col. 700]

Chapter Fourteen

27. These are the rooms: the first is Rameses; the second, Succoth; the third, Etham; the fourth, Pi-hahiroth; the fifth, Marah; the sixth, Elim; the seventh, the Red Sea; the eighth, the desert of Sin; the ninth, Dophkahath; the tenth, Alush; the eleventh, Rephidim; the twelfth, Sinai; the thirteenth, the tombs of desire [Kibroth-hattaavah]; the fourteenth, Hazeroth; the fifteenth, Rithmah; the sixteenth, Rimmon-perez; the seventeenth, Libnah; the eighteenth, Rissah; the nineteenth, Kehelathah; the twentieth, Mount Shepher; the twenty-first, Haradah; the twenty-second, Makheloth; the twenty-third, Tahath; the twenty-fourth, Terah; the twenty-fifth, Mithkah; the twenty-sixth, Hashmonah; the twenty-seventh, Moseroth; the twenty-eighth, Bene-jaakan; the twenty-ninth, Gadgad [Hor-haggidgad]; the thirtieth, Jotbathah; the thirty-first, Abronah; the thirty-second, Ezion-geber; the thirty-third, Zin [Kadesh]; the thirty-fourth, Mount Hor; the thirty-fifth, Zalmonah; the thirty-sixth, Punon; the thirty-seventh, Oboth; the thirty-eighth, Iye-abarim; the thirty-ninth, Dibon-gad; the fortieth, Almon-dibla-thaim. Since one of the six little rooms over the bank of the river Jordan is situated on the side of the first room in this direction, and since we had come up to it with the fortieth room, the next two rooms are drawn in the second room, likewise up until the bank of the river Jordan. They are these: the forty-first is Mount Arabim, opposite Nebo; the forty-second, the plains of Moab, over the river Jordan, next to Jericho. I will pursue what needs to be said about the interpretation and the significance of these stations at more length, perhaps, in another work, which I am thinking about writing about this same Ark, and also, why the natural law is compared to Egypt, the written law, to the desert, and grace, to the promised land,

and what sort of path leads from the first through the second to the third.

28. That is enough, for those who cannot or do not want to do any more, to set up the Ark. I will add a few things, which I will only touch on briefly. When the Ark is complete, I draw an oval around it, which touches it at its corners, and the space enclosed by the circle is the orb of the earth. In this space, I draw the map of the world in such a way that the bow of the Ark is turned toward the east, and the stern of the Ark is turned to the west. The arc of the circle that extends to the east on the bow of the Ark is Paradise, like the lap of Abraham, as it will appear afterward once the Majesty[23] has been drawn. The other arc, which extends to the west, [holds the resurrection and final judgment of all: on the right are the chosen, on the left, the condemned. In the northern corner of this arc][24] is the Inferno, where the damned along with the rebellious spirits are driven downward. Next, another oval, a little bit wider, is drawn around the first one, so that it seems like a belt, and this space is the heavens. In this space, the four seasons are arranged so that spring is at the east; fall, to the west; summer, to the south; winter, to the north. Spring is drawn as a boy from the waist up holding a pipe in his hand and singing. Summer [col. 701] is a youth scattering[25] flowers. Fall is depicted in manly age, holding a piece of fruit to its nose and sniffing. Winter, in the form of an old man, eats the fruit. And all are drawn from the waist upward, each in its beginnings. Spring has pleasure for the ears; summer, for the eyes; fall, for the sense of smell; winter for the sense of taste. This is because the delight of boyhood is in listening to teachings; of youth, in the example of work; the delight of manly age is in the appetite for goodness; the delight of old age is in the experience of virtue. And they each have a quarter of the year. [Summer has the upper quarter; winter, the lower; spring, the right; fall, the left.] In each of these four quadrants two chords are extended because each has two characteristics. Bringing these strings together produces the octochordal music that keeps the harmony of universal concordance in tune. Spring is wet and warm. Summer is warm and dry. Fall is dry and cold. Winter is cold and wet. For the sake of concision, I treat these things only briefly.

Chapter Fifteen

29. In this same space the twelve winds are placed, three with each season, under the space of heaven, as though rushing downward, with wings coming out of their shoulders. Of these, four are the chief winds, each of which has two supporting winds on either side. In the middle of the east blows Subsolanus, who has two winds blowing with him on either side: Vulturnus on the right, and on the left Eurus. From

the south blows Auster or Notus, who has on his right Euronotus, also called Euroauster, and on his left, Libonotus, or Austroafricanus. Zephyrus, also called Favonius, blows from the middle of the west. On his right he has Africus or Libs, and on his left, Corus, or Argentes. From the middle of the north Aparcitias blows, also called Septentrio, who has Circius, or Thracias, or Trasceas or Thrascias, on his right, and on his left, Boreas, or Aquilo. Each of the principal winds blows with double blasts, each of the subordinate winds with one only. After this, another oval is drawn around the two already there, and the space that it encloses is called the ethereal region. In this space, the twelve months are arranged according to the order of the seasons, and the twelve signs of the Zodiac are put under the twelve months in such a way that each sign begins in the middle of the month, and also each month in the middle of a sign. And each of these signs is marked above by thirty degrees, with the first degree of the Ram coming first. And thus, all the Zodiac signs having been put in order facing the earth in a circle as though lying flat up against the firmament, and the months having been raised up under them, the signs, turning above in the circle that is called the *aplanes,* the fixed stars may seem to stand or walk; the months appear to be standing in the ether to the rear and below the signs. In the outermost part the signs appear; under the signs, the months; under the months, the winds; and under the winds, the seasons. This arrangement signifies the grand rationale and working of nature, and the whole vault of the heavens is finished.

30. Once the [col. 702] machine of the universe has been constructed in this way, in its higher part the Majesty is drawn from the shoulders upward, and the feet downward, [as though sitting on a throne], but standing out from the background, with His arms extended in either direction, so that He seems to embrace all things. With three fingers extended through the middle up to the orb of the earth, and the others folded into His palm, He embraces the skies. [And in His right hand He holds His throne, which hangs down crosswise through the region of air down to the point in the right part of the arc on the lower side of the Ark where, as I have said, the elect rise again, and are lifted up into heaven by the angels waiting there for them. On the throne is written: “Come, blessed ones of my father, receive the Kingdom of Heaven, which has been ready for you since the beginning of time” (Matt. 25: 34). In His left hand, however, He holds a scepter, which points downward to the place where demons come to seize the wicked men, rising again at the left, and so I write on the scepter: “Go, cursed ones, into the eternal fire, which is prepared for the devil and his angels” (Matt. 25:41).] Then I extend the line of generation to Adam upward, outside the Ark, through the middle of the tip of the semicircle up to the vertex of the heavens.

And in this line six little wheels are drawn so that the last one surrounds the entrance of the Ark.[26] These little wheels signify the works of the six days. The first, which is also the outermost, should be drawn as the world was on the first day when light was created. The second, when the firmament was placed between two waters. The third, when the waters were collected into one, and the earth was clothed with sprouting plants. The fourth, when the sun, moon, and stars were made. The fifth, when the fish were placed in the water, and birds in the air. The sixth, when the beasts were made on the land, and also man. In this way, the word proceeds from the mouth of the Majesty, and the whole series of creation follows, and the whole expanse of the Ark reaches from the beginning of the world up to the end of time, having places here and there, hills, rivers, forts, and towns, Egypt to the south, and to the north Babylon. Next, around the middle of the throne on each side, two seraphs are drawn, who with their wings extended upward and downward surround the head and feet of the Majesty, but leave His face uncovered. Under the wings of the seraphs above, in that space which is between the shoulders of the Majesty and the wings, the nine orders of angels are set up on both sides, turned to contemplate the face of the Majesty. For the supreme, true Unity holds the central and highest place. Next: the first order of angels, wearing diadems, two on each side; the second order, three on each side; the third order, four on each side; the fourth order, five on each side; the fifth order, six on each side; the sixth order, seven on each side; the seventh order, eight on each side; the eighth order, nine on each side; the ninth order, ten on each side. Altogether one hundred and eight angels. After one angel from each order had fallen, however, ninety-nine remained, to which man was added, as the one-hundredth sheep, and the city above was completed.[27] I have said these things about the drawing of our Ark, so that if it please anyone to gaze inwardly upon the elegance of the Lord's house and His miracles, which are without number, he might at the same time rouse his emotion with this exemplar. Blessed be God forever.

1. This paragraph, which joins *De arca Noe* and the *Libellus de formatione arce* in some manuscripts, does not appear in the Migne edition. The text repeats a paragraph in *De arca Noe.* In the translation, brackets designate material absent from the shorter version.

2. Hugh interprets the Greek letters chi (χ) and sigma (lunate form, ς) as the Roman numerals X, C.

3. Hugh describes the standard geometrical operation of finding the two points that divide a line segment into three equal parts—this was (and still is) taught with the use of a compass.

4. Here Hugh anticipates the 3-dimensional stage of the construction of the Ark.

5. The ratio 3:5, called the "golden ratio," was also that of the dimensions of the Ark of the Tabernacle, described in Exodus 25:10 (1.5 cubits by 2.5 cubits). It figures often in medieval ecclesiastical architecture.

6. In other words, to the apex of the pyramid.

7. This explanation of Adam's name occurs in St. Augustine's ninth and tenth homilies on the Gospel of John. The figure was commonplace by the twelfth century.

8. This and the following lists of the patriarchs and kings are versions of the genealogical *linea* Hugh taught to his novices and describes in Selection I above. Such genealogies were a commonplace of medieval classrooms, compiled from the several genealogies in the Bible. The spelling of the Hebrew names has been translated from Latin forms to those of the NRSV.

9. The papal line ends with Pope Honorius II, 1124–30. The Latin names have been conventionally anglicized and the numerical designations added in accordance with English usage.The list does not entirely correspond to the modern canonical list of popes.

10. These "ages" of the world are also in Hugh's diagram for his Chronicle; see Selection I.

11. That is, the Babylonian captivity.

12. Although Hugh says that the position of the bands is to be alternated, it becomes apparent later that he means that the positions of the three colors within each band should be altered. One might imagine them as being like the differently colored sections of seats in a modern sports amphitheater.

13. It is well to read the passages Hugh quotes in their full context, as he surely expected his readers to do. Chapter 2 of Ephesians, for example, recalls how we were children of wrath, then through Christ "in ages to come" became childen of grace, reconciled to God and so "fellow citizens" of the saints in the new temple, of which Christ is the cornerstone (and of which Noah's Ark is an avatar).

14. Reading *existimentibus* for the PL's erroneous *existentibus*.

15. The shorter version of the *Libellus* has only the one sentence: "The Ark is colored purple, and the surface of the earth, green." The longer version raises many questions, even with a slightly improved text. See Sicard, *Diagrammes médiévaux*, 81–84.

16. Hugh's designation of the four compass quadrants as "cold of the east," "warmth of the east," and so on refers to the directions we now call "northeast," "southeast," and so on.

17. Hugh's *De tribus diebus* is printed in the PL as Book 7 of *Didascalicon*, though no one now believes that it ever formed part of that work. It sometimes also called De *tribus diebus invisibilis lucis*, and is a meditation on the Trinity and the stages of contemplation.

18. Reading *tumor*, "swelling," for the PL's *timor*, "fear," which makes no sense in this context.

19. *De arca Noe*, 2.4e (PL 176, 637–38).

20. There is a seemingly superfluous "eorum" in the PL text, not reflected in this translation. Alternatively, one could take "foris" as an instance of the word *forus, -i*, meaning "(on a ship), a narrow platform, deck, or gangway" (OLD, s.v. Ia). This meaning would yield the translation: "when the narrow platforms ascend through the water, they could get in by way of the deck."

21. The PL text lacks the word "gate" here, but it becomes obvious in the rest of the sentence what has been omitted.

22. The forty-two stations of the Israelites in their journey to the promised land were a standard item of exegetical focus, all forty-two names, derived from Numbers 33, traditionally being given in full. They thus could serve like the place names in *mappaemundi*, as mnemotechnical "locations" for a variety of further purposes. The anglicized forms are from the NRSV; the Latin spellings are consistently somewhat different, and where there are major differences the RSV names are given in

brackets.

23. That is, the iconographical figure of Christ in majesty, known as “majestas Domini.”

24. In the shorter version, only Hell is to be shown at the bottom of the drawing and not the Judgment scene.

25. Reading *aspergit*, “scatter” for *aspicit*, “looks at.”

26. Notice that Hugh also used “little wheels” like crescents to diagram the works of the Six Days in the picture accompanying his *Chronicon* preface. Several features of the encyclopedic Noah’s Ark described here are to be found also in the much simpler *Chronicon* diagram, indicating how this “picture” has incorporated many familiar school figures.

27. The traditional order of angels was described in *De celesti hierarchia (Concerning the Heavenly Hierarchy),* the work of a sixth-century Greek theologian, wrongly identified in the Middle Ages as the Dionysius mentioned in Acts 17:34, and hence now known to scholars as pseudo-Dionysius. Hugh wrote a commentary on this work.

3. The Guidonian Hand

Karol Berger

The universe of audible sound is practically inexhaustible. Until the middle of the twentieth century, however, Europeans (as well as most non-Europeans) made their music from only a very narrow selection of sounds picked out from this rich universe, a selection limited almost entirely to tones, that is, sounds of definite pitch. Moreover, they made a further drastic selection from among the not infinite but still very large number of tones the human ear is capable of distinguishing. They limited their basic material to only seven different pitches within an octave and made sure that the eighth pitch replicated the first one at the interval of the octave, the ninth replicated the second one, and so on. (The octave equivalence, the fact that pitches an octave apart are experienced as being largely interchangeable and used accordingly, so that in most contexts one may be substituted for the other without any essential change of the tonal meaning, appears to be a musical universal.) The resulting diatonic gamut alternated a group of two steps a whole tone apart with a group of three steps a whole tone apart, the two groups separated by a diatonic semitone. In principle such a gamut could be infinitely extended; in practice it was of course limited by the incapacity of the human ear to hear below and above certain frequencies, if not by other considerations.

This basic diatonic gamut of seven different steps within an octave could be enriched by a number of less fundamental pitches, when its steps were inflected by a chromatic semitone down or up. It is impossible to say how many such less fundamental, chromatic steps there were, since in principle one might continue inflecting pitches in either direction for as long as one wanted to, but for good practical reasons even the most chromatically saturated music, such as that of Bach orWagner, did not go beyond a single and double flat and sharp for each diatonic step. (A single flat inflects a step down a chromatic semitone, a double flat inflects it down two such semitones, and the sharps inflect the steps similarly upward.) In premodern practice only a very limited number of singly flattened or sharpened steps were used. Until the early sixteenth century, musicians could not even conceive of adding more than five different flattened and five sharpened steps to the basic diatonic octave set, and they rarely used more than three flattened and three sharpened pitches.

It is highly unlikely that the gamuts employed in various traditional musical cultures were established as a result of much conscious

deliberation and decision making. It is much more probable that in most cases such gamuts arose and were maintained in relatively unreflective, intuitive practice. A gamut can certainly be so maintained. Young musicians who begin to learn how to participate in the practice need not be aware of the structure of the set of pitches they use at all; they just need to imitate their elders. Musicians become aware of the gamut they have intuitively been using all along only when prompted either by purely theoretical curiosity or, more likely, by practical necessity, by the need to fix the repertory so that it remains stable over time. In the medieval West a need of this sort arose with efforts to stabilize the repertory of liturgical melodies we refer to as “Gregorian” chant, efforts initiated perhaps in the early eighth century in the Roman *Schola Cantorum (School of Singers)* and continued with the adaptation and systematization of the repertory by the Carolingians a good century before the appearance of the earliest surviving notated Frankish graduals (liturgical books containing mass chants) after 900. For such a need to be answered, a reliable technology for transmitting the repertory from one generation to the next is required. Regardless whether the chosen technology supports oral or written transmission, it has to foster an awareness of the set of pitches used in the repertory in question, an awareness of the gamut.

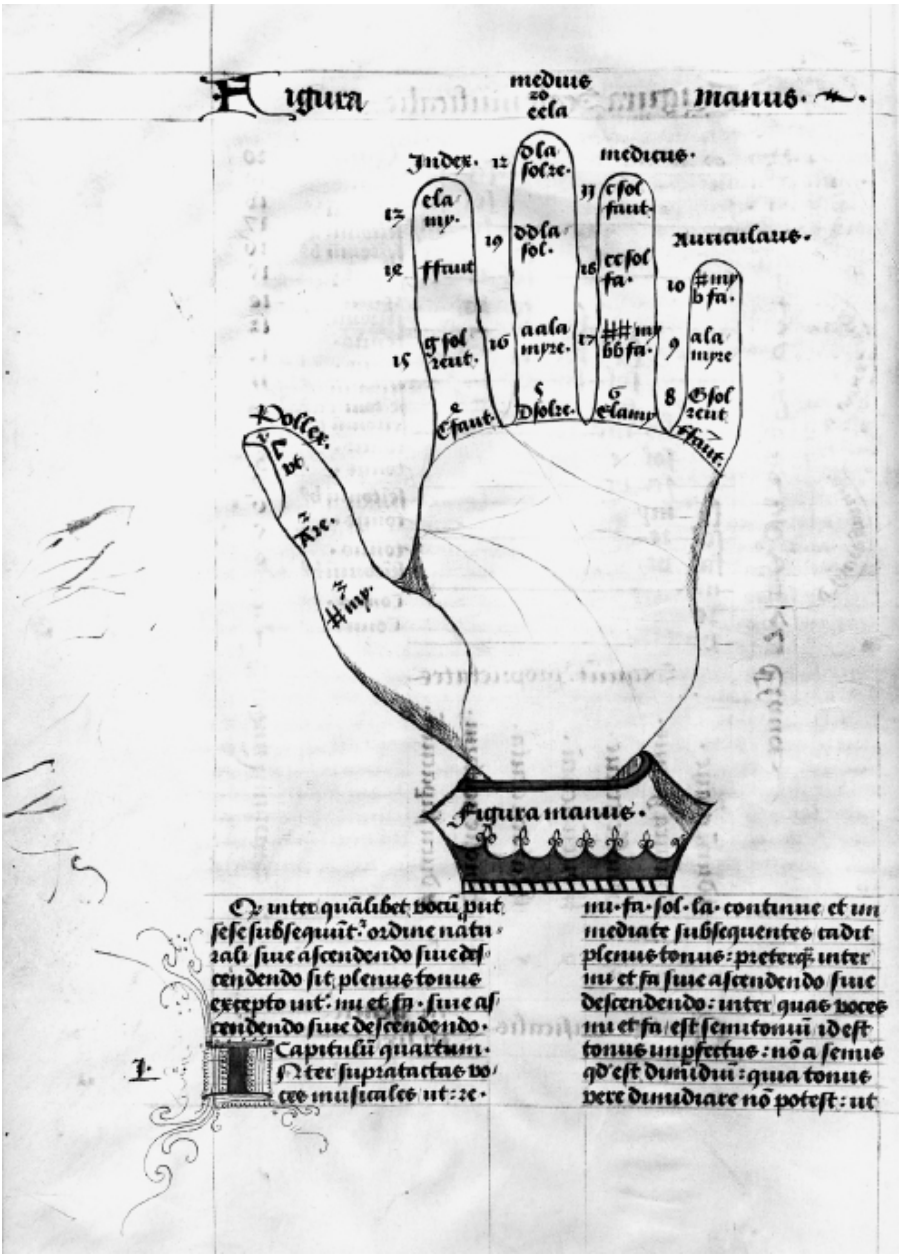


Figure 3.1. Ghent, Universiteitsbibliotheek MS 70(71), fol. 108v. Photo: Universiteitsbibliotheek, Ghent.

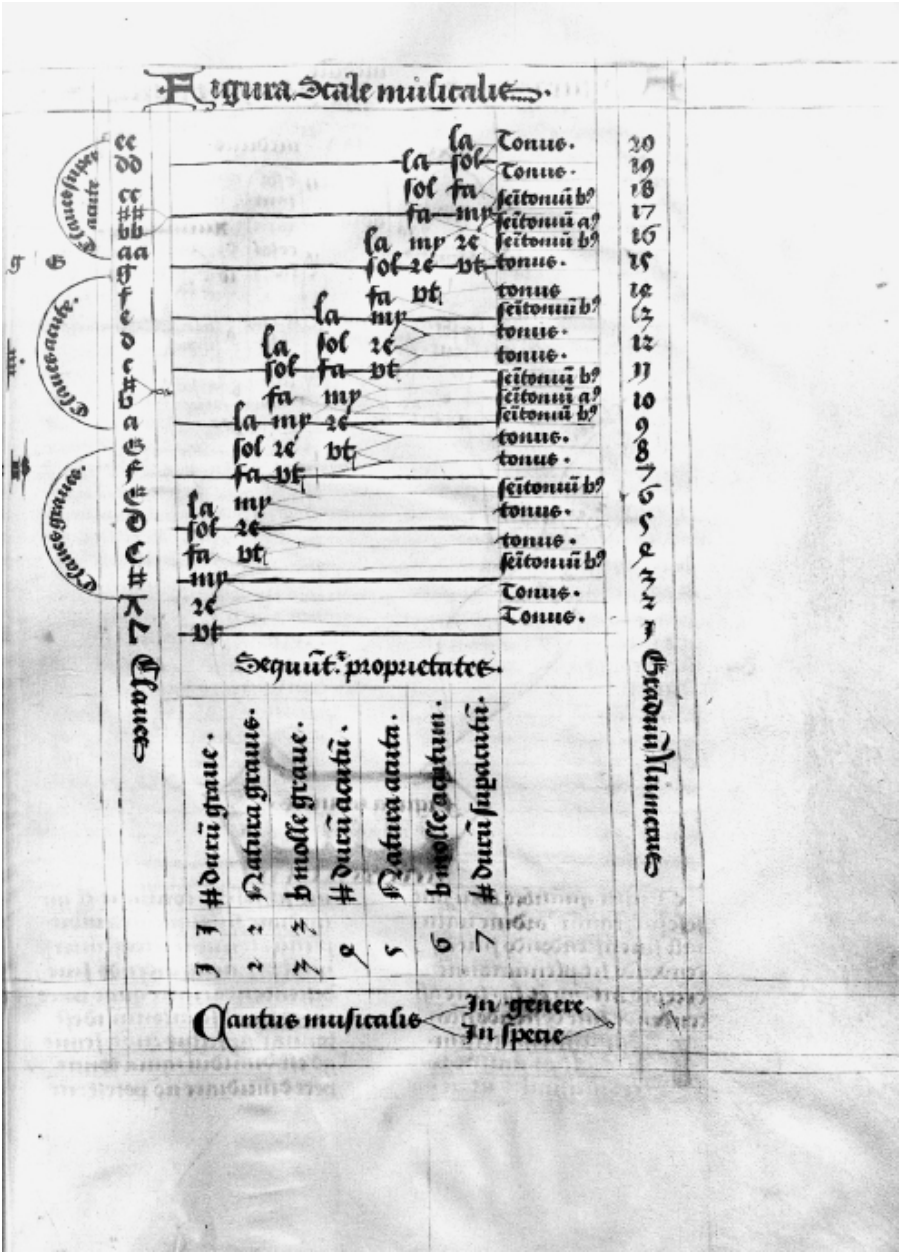


Figure 3.2. Ghent, Universiteitsbibliotheek MS 70(71), fol. 108r. Photo: Universiteitsbibliotheek, Ghent.

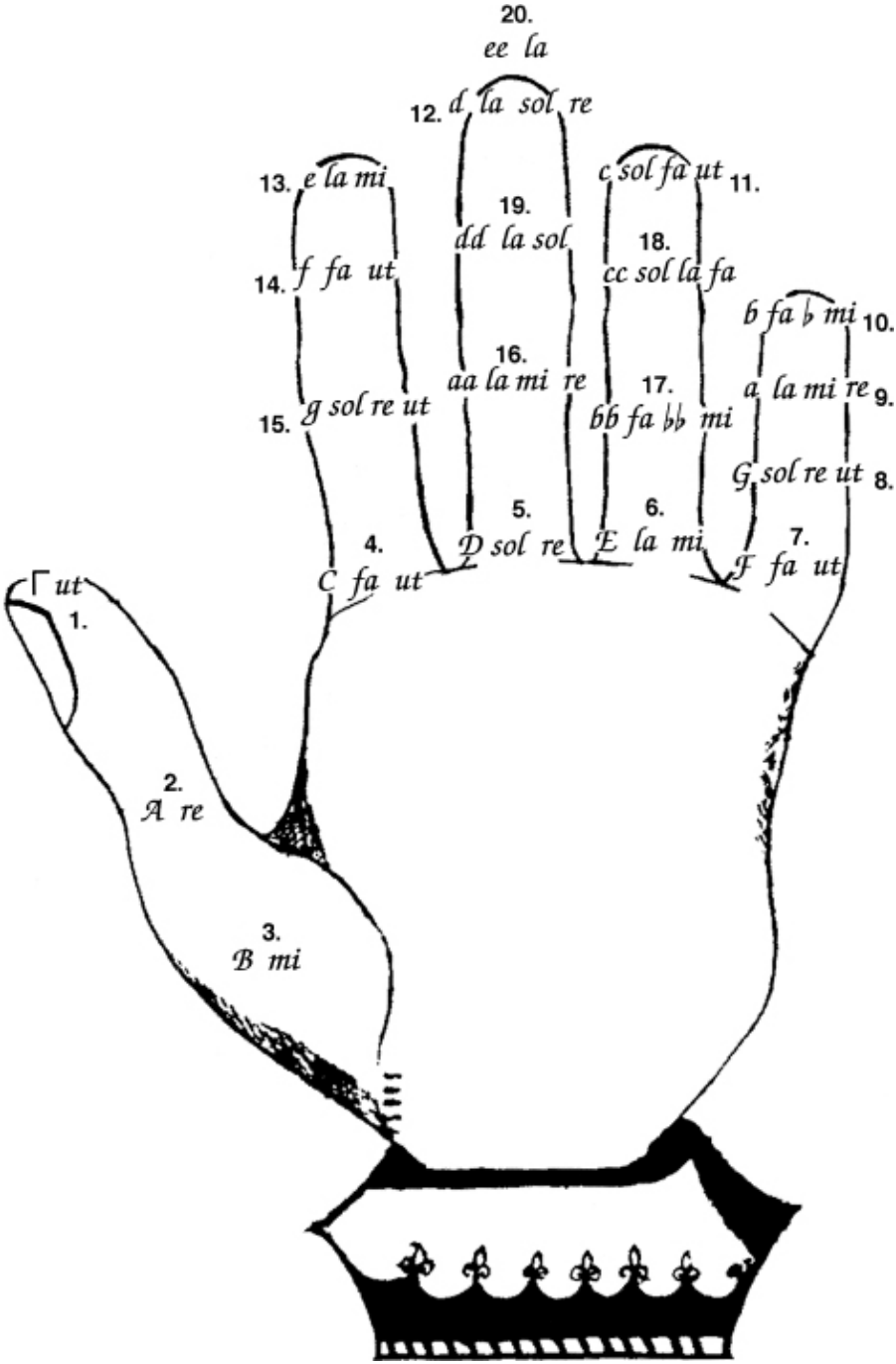


Figure 3.3. “The Guidonian Hand.” Drawing by Collin McKinney based on Ghent, MS 70(71), fol. 108v.

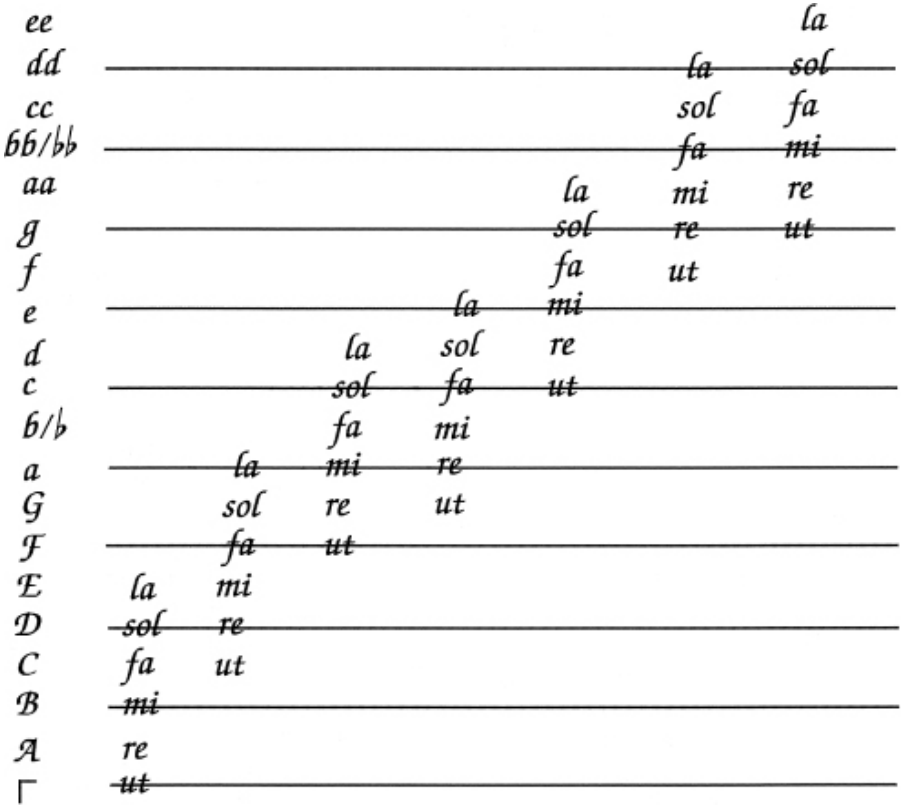


Figure 3.4. “The Scale.” Drawing by Collin McKinney, based on Ghent, MS 70(71), fol. 108r.

At a minimum, this becoming aware of the gamut has to involve giving each step a name. But often it involves more than that, namely, the translation of what is perceived aurally, pitches, into something visual, the invention of a system of images that visually represent the steps of the gamut. Such a system of images may then play a central role in the development of a technology of transmission, whether oral or written (the two are in any case closely related). In modern Europe the principal system of images of this sort has been provided by the keyboard. In premodern times, however, before keyboard instruments became ubiquitous, the principal form under which trained musicians imagined their gamut was the so-called Guidonian “hand” *(manus),* the representation of the gamut on the palm of the left hand (see Figure 3.1, a representation of the hand from a manuscript copied in 1503–4). This way of representing the gamut began to emerge in the late ninth century, reached its fully developed form in the late thirteenth century, and dominated the imagination of trained musicians until at least the mid-sixteenth century. An excellent introduction to it was provided by Johannes Tinctoris in a little treatise, *Expositio manus* (*Exposition of*

the Hand), written in or after 1477. An alternative visual form in which the gamut could be represented was a ladderlike construction known under the name of “scale” *(scala)* (see Figure 3.2).

The most fundamental feature of either image, the hand or the scale, is that it consists of a series of twenty “places” (*loca)* in which the successive steps of the gamut, from the lowest one to the highest, are located. On the hand, these places are the successive fingertips and joints starting with the tip of the thumb and continuing counterclockwise in a spiral motion, with the twentieth place imagined on the reverse side of the nineteenth, which is on the third joint of the middle finger (since this cannot be represented in two dimensions, on a drawn diagram this last place appears above the middle finger). On the scale, the places are the ascending lines and spaces between them, beginning with the lowest line and ending with the space above the highest, tenth, line. The successive places arranged in the ascending order are represented in a letter notation by the twenty “clefs” (claves), that is, capital letters from Greek gamma (Γ) through the successive capital letters of the Latin alphabet from A to G (the “grave clefs,” *claves graves),* the same letters in lower case (the “acute clefs,” *claves acutae),* all the way to double letters from aa to ee (the “superacute clefs,” *claves superacutae).*

The use of only seven different letters as clefs that name the places suggests the diatonic gamut of seven different steps within an octave. Nevertheless, in principle the places mark only the order of the successive steps of the gamut and not the specific intervals between them.The precise intervals between the steps are indicated only when specific “syllables” *(voces)* naming these steps are located in the places. There are six such syllables to be located in consecutive places–ut, *re, mi, fa, sol,* la–arranged in an ascending series of two whole tones, a diatonic semitone, and another two whole tones, the series known under the name of the “hexachord” (*hexachordum)* or “deduction” (*deductio).* It is clear that each syllable implies a specific intervallic pattern: if, for instance, a step is named *re,* we know that it has a whole tone below as well as a whole tone, a minor third (the sum of a whole tone and a diatonic semitone), a perfect fourth (the sum of a minor third and a whole tone), and a perfect fifth (the sum of a perfect fourth and a whole tone) above. It follows that, when syllables are located in places, the intervals between these places are precisely indicated.Take, for instance, the places named G and b: if the syllables located in them are respectively *ut* and *mi,* the distance between the two steps must be a major third (the sum of two whole tones); if, however, the syllables are *re* and *fa,* the distance must be a minor third. To identify a step of the gamut, one has to name its place and the syllable located within it. There is a major third between G-ut and

b-mi and a minor third between G-re and b-fa.

In principle, any one of the six syllables can be located in any one of the twenty places. The normal gamut contained within the hand, however, allows for only seven hexachords, their *uts* located in the places of Γ, C, F, G, c, f, and g respectively.The resulting set of steps is said to be “within the hand” (*intra manum)* and to comprise the “true” or “correct” music *(musica vera* or *recta).* Hexachords located anywhere else are “beyond the hand” *(extra manum)* and produce the steps of the “feigned” or “false” music *(musica ficta* or *falsa).* If one wants to calculate the interval between two steps whose syllables do not belong to a single hexachord, one needs to make a “mutation’” *(mutatio),* that is, find a place that contains syllables belonging to both hexachords and switch from one hexachord to the other. For instance, to go from G-re to e-mi one needs to find a place that contains simultaneously syllables from the hexachord that begins in the place of F and syllables from the hexachord that begins in the place of c.There are two such places, c and d, and one can execute the mutation in either of those, for instance, in the former, by mutating *c-sol* into c-ut. Since the interval from G-re to *c-sol* is a perfect fourth and the interval between c-ut and *e-mi* is a major third, the interval between G-re and *e-mi* must be a major sixth (the sum of a perfect fourth and a major third).

The method of identifying a step of the gamut by naming its place and the syllable located within the place has the advantage of showing various relations between the gamut’s steps. The system of seven hexachords demonstrates the “affinities” *(affinitates)* between the steps in that the corresponding syllables of different hexachords identify steps surrounded by identical intevallic patterns (within the range of the hexachord, at least). Moreover, the hexachords that are an octave apart are said to have the same “property” (*proprietas)* because their relations with the surrounding hexachords are identical. The hexachord is “natural” *(naturale)* when it has its *ut* in C or c, “soft” (molle) when it begins in F or f, and “hard” *(durum)* when it begins in Γ, G, or g.

What we have here, in short, is a way of thinking about and visualizing the gamut. One thinks about it in terms of a series of places (each possessing a letter-name), the function of which is to define the ascending order of the successive steps of the gamut, and in terms of hexachordal syllables located within these places, the function of which is to define the specific intervals between the steps. One imagines the gamut, in turn, by visualizing the places as either the fingertips and joints of the open left hand or the lines and spaces of the ten-line staff.

The premodern way of thinking about and imagining the gamut is deceptively similar to the modern one (which has obviously developed

from it). It is similar in that we easily recognize those elements (specifically, letter-names and the staff) that have survived into the modern period. But the similarity is deceptive in that we tend not to notice that some of these elements may have subtly changed their function. Modern letter-names, for instance, name steps of the gamut rather than places. In general, in thinking about the gamut we no longer have any use for the places and limit ourselves simply to a series of steps each of which has a name and each of which can be imagined either on the keyboard or on the staff. The result of this deceptive similarity is that it tends to veil the differences between modern and premodern mentalities. Even today most music historians are not aware of how exotic premodern ways of thinking about and imagining the gamut really were. Not only have we ceased to think about the gamut in terms of the places and steps located within them, most of us do not realize that this is how our premodern ancestors thought.

What is characteristic of the way of thinking and imagining described here is the intimate intertwining of the techniques of memorizing and writing. Both the hand and the scale were clearly visual aids that helped fix the gamut (the steps and the relations among them) firmly in the memory of the musician. Whether they were used to memorize not only the gamut but also specific melodies remains to be investigated. At the same time, both the staff and the clefs were essential elements of the system of writing down pitches: then, as now, one wrote pitches on the staff marked at the beginning with a clef (one clef sufficing to define the functions of all the lines and spaces of the staff, of course). The knowledge of hexachords and of mutating, in turn, helped beginners to learn how to read the notation using the method of sight-singing known as “solmization” *(solfisatio).* Once one memorized the gamut and learned to produce the intervals of the hexachord, one could use the hexachordal syllables and mutations to sing any written melody.

While the way of representing the gamut described here, and specifically the system of the seven hexachords, reached its fully developed form only in the late thirteenth century, its individual elements began to emerge from the late ninth century on, the decisive developments taking place in the early eleventh century. A crucial imaginative breakthrough was made in the late ninth or early tenth century by the anonymous author of *Musica enchiriadis* (*The Music Handbook)* who demonstrated that the steps of the gamut can be represented in a spatial form when he notated the metaphorically “lower” and “higher” steps on the literally lower and higher horizontal rows on the page. The earliest treatise using the clefs (which it calls “letters,” *litterae)* from Γ to aa is the anonymous *Dialogus* (*Dialogue)*

written in the area of Milan ca. 1000 and ascribed since the twelfth century to an Abbot Odo. But the most important steps were made shortly thereafter by Guido of Arezzo, after whom the hand was eventually named.

In *Micrologus* (1026–28), Guido laid the foundation for the development of the hexachord when he demonstrated that the intervallic patterns around D, E, and F and the corresponding steps a fourth below (or a fifth above) remained identical if one did not transcend the limits of the major sixth between C and a and Γ and E (or G and e). Thus, for instance, there was no difference between the pattern of whole tones and diatonic semitones surrounding A within the Γ–E range and the pattern of intervals around D within the C–a range. In a prologue to an antiphoner (a liturgical book containing office chants) of ca. 1030, Guido adapted and transformed the suggestions of *Musica enchiriadis* and of Pseudo-Odo into a practical device of the staff consisting of lines and spaces between them and marked with the clefs, a device we still use today. And finally, in *Epistola de ignoto cantu* (*Epistle Concerning an Unknown Chant)* of ca. 1032, Guido taught how a previously "unknown chant" thus notated could be sung at sight, without the use of an instrument such as the monochord helping to produce the required pitches. The method involved learning by heart how to produce the diatonic series from C to a. The text of the melody Guido used to teach the progression of the six steps could yield the six syllables from *ut* to *la,* and, while we cannot be sure that Guido himself used these syllables to name the steps when sight-singing, evidence suggests that the syllables were so used by the second half of the eleventh century at the latest.

Before Guido's time, some manuscripts that transmitted *Musica enchiriadis* mentioned the use of fingers as places for the steps of the gamut. It is not clear who was the first to use the left hand as a mnemonic and pedagogical device for teaching music students how to associate particular clefs with the appropriate syllables, but hand diagrams with clefs and syllables begin to appear in the late eleventh century. Around 1100, an author named John implied in his *De musica cum tonario (On Music, with a Tonary)* that the hand was in common use, connected the device with Guido's method of the *Epistola,* and stressed the mnemonic uses of both. The hand was attributed to Guido as early as ca. 1110 by Sigebert of Gembloux. Whether or not this attribution is literally correct, it is certainly justified in view of Guido's central role in developing all the elements the hand represents, and in particular in the search for a method that would allow the student to remember the steps of the gamut.

What from the modern standpoint is most exotic in the medieval way of thinking about and imagining the gamut is the use of a series of

places to fix the order of, but not the precise intervals between, the steps: we do not separate these two functions. To understand this peculiarity, one needs to go back to the ancient and medieval tradition of *ars memorativa.*

As presented in the principal Roman textbooks of rhetoric, the anonymous *Ad Herennium* (86–82 B.C.), Cicero's *De oratore* (55 B.C.), and Quintilian's *Institutio oratoria* (A.D. 96), and especially in the first of these (since its exposition of the mnemotechnics is the most complete, and since it had a much wider circulation during the Middle Ages than the other two), the art of memorizing a discourse involves three elements. First, one needs to know what is to be remembered, whether "things" (res), that is, the subject matter of the discourse, or, literally, all of its "words" *(verba).* Second, one needs to know how to remember whatever it is one wants to remember. The method is to associate the things or words to be memorized with specific "images" *(imagines)* or "notes" *(notae)* that represent them, to make what is to be remembered visual and representable, the idea being that visual images are easy to remember and that they can be used to trigger the memory of what is to be recalled by association. Third, one needs to know the order in which these images or notes are to be recalled. This is provided by a series of "places" (*loci* or *loca),* for instance, a succession of rooms in a house, that the orator can imagine and visit in a natural order. The orator needs only one such series of places, since these can be used again and again to store any set of images one wants. This constancy of the series of places and mutability of the images one can store in them makes the technique of memory akin to the technique of writing, with the series of places used like an erasable tablet, and the images like letters.

The memorizing of a discourse consists, then, in associating its successive elements with images and locating these images in the successive places in the order in which one wants to retrieve them. At the retrieval time, one moves from place to place in order, recovers the images one by one, each one triggering the recollection of the appropriate element of the discourse.

The peculiarities of the premodern way of thinking about, imagining, and representing the gamut have one of their sources, I believe, in the *ars memorativa.* The mnemonic system was an obvious resource to adapt and imitate when one wanted to develop a conscious mastery over the gamut, to represent and remember its content– and, indeed, the Guidonian hand shows unmistakable traces of the system's structure, function, and terminology.The structural similarity is the most important one. The fundamental feature of the system is that it separates the images of things or words to be remembered from the order in which they are to be recalled, the order governed by a series

of places. Such a separation is the most striking feature of the premodern handling of the gamut. Both the hand and the scale separate the series of places that order the successive steps of the gamut from the hexachordal syllables located within these places that define the actual content of the gamut, the precise intervals between its steps. Moreover, like other such systems of mnemonic places, the hand can also be wiped clean, so to speak, and thus accommodate all sort of images, musical and otherwise.We have already seen that, when irregularly placed hexachordal syllables are located within the hand's places, the regular gamut is extended. And the hand was used as a system of mnemonic places outside music even before Guido's time, for instance, in teaching the ecclesiastical calendar.

Hardly less telling is the similarity of function between the hand and the rhetorical technique of memory.The mnemonic system functioned like an imaginary writing, making possible the storage and retrieval of discourses in memory. Similarly, the hand and the scale comprised the elements of imaginary,as well as actual, writing, by means of which one taught and memorized the gamut, the relationships among its steps, and ways of writing the steps down and reading them. And finally, one is struck also by some terminological similarities, in particular, by the similar use of the same crucial term, "place," in both domains.

But it should again be stressed that the techniques of memorizing and writing were intimately intertwined in the process that led to the development of the hand.The classical mnemotechnics assumes, first, that what is to be remembered has to be translatable into visual images, since visual images are what we store and retrieve with most ease, and second, that we must be able to give such images a spatial localization. For the art of memory to be at all applicable to the gamut, someone must have had the brilliant idea that pitches might be translated into visual and spatially localizable images.To us, after over a millennium, the idea seems obvious: we are so used to thinking of some pitches as being "lower" and others as being "higher" that we no longer remember that they are only metaphorically "low" or "high" and that other sets of metaphors (for instance, "slack" and "taut") might do just as nicely. But the spatial notion of pitch and the spatialization of the relations between pitches are developments that took place only between the ninth and eleventh centuries concurrently with the development of pitch notation. Without the development of the spatial conception of pitch, neither the Guidonian staff nor the hand would have been possible.

The general scenario these facts suggest is one in which the desire to fix and stabilize the liturgical chant repertory, initiated perhaps in the early eighth century and intensified by the Carolingians, fostered an

awareness of the gamut and motivated the search for a technology of transmission of the repertory, whether oral or written or both. The already existing techniques of fixing discourses in memory and in writing provided obvious models for those involved in the search, the more so since liturgical melodies were all vocal and texted. When the search matured sufficiently to yield in the eleventh century the hand and scale diagrams, it was only to be expected that it preserved some features derived, whether directly or indirectly, from the ancient art of memory.

FURTHER READING: The content and development of the premodern gamut have been studied in my *Musica Ficta: Theories of Accidental Inflections in Vocal Polyphony from Marchetto da Padova to Gioseffo Zarlino* (Cambridge: Cambridge University Press, 1987), 2–55. A good introduction to the much contested issue of the origin of Gregorian chant can be found in James McKinnon, "The Emergence of Gregorian Chant in the Carolingian Era," in McKinnon, ed., *Antiquity and the Middle Ages: From Ancient Greece to the 15th Century,* ed. McKinnon, Music and Society Series (Englewood Cliffs, N.J.: Prentice-Hall, 1990), 89–119. For the close relationship of the oral and written technologies of music transmission, see Leo Treitler, "The 'Unwritten' and 'Written Transmission' of Medieval Chant and the Start-Up of Musical Notation," *Journal of Musicology* 10 (1992): 131–91. The development of the concept of the hexachord has been reconstructed in Richard L. Crocker, "Hermann's Major Sixth," *Journal of the American Musicological Society* 25 (1972): 19–37. The evidence suggesting that solmization syllables were used by the second half of the eleventh century to name steps when sight-singing can be found in Joseph Smits van Waesberghe, *Musikerziehung: Lehre und Theorie der Musik im Mittelalter,* Musikgeschichte in Bildern 3, 3 (Leipzig: VEB Deutscher Verlag für Musik, 1969), 116ff; Smits van Waesberghe also studies the early history of the hand diagram (120–43).The mnemonic background of the Guidonian hand has been studied in Berger, "Hand and Art." The development of the spatial notion of pitch has been traced in Marie-Elisabeth Duchez, "La représentation spatio-verticale du caractère musical grave-aigu et l'élaboration de la notion de hauteur de son dans la conscience musicale occidentale," *Acta musicologica* 51 (1979): 54–73.

Editions and translations of the treatises mentioned in this essay can be found in the following publications:

Anonymous, *Musica enchiriadis,* in Hans Schmid, *Musica et scolica enchiriadis una cum aliquibus tractatulis adiunctis* (Munich: Verlag der Bayerischen Akademie der Wissenschaften, 1981), trans. Raymond Erickson as *Musica Enchiriadis and Scolica Enchiriadis,*

ed. Claude V. Palisca (New Haven, Conn.: Yale University Press, 1995).

Guido Aretinus, *Epistola de ignoto cantu,* in *Scriptores ecclesiastici de musica sacra potissimum,* 2 vols., ed. Martin Gerbert (St. Blasien: Typis San Blasianis, 1784), 2:42–46, 50; trans. in *Source Readings in Music History,* ed. Oliver Strunk, rev. ed. Leo Treitler (New York: Norton, 1998), 214–18.

Guido Aretinus, *Micrologus,* ed. Joseph Smits van Waesberghe, Corpus Scriptorum de Musica 4 (Rome: American Institute of Musicology, 1955); trans. Warren Babb in *Hucbald, Guido, and John on Music: Three Medieval Treatises,* ed. Claude V. Palisca (New Haven, Conn.: Yale University Press, 1978), 57–83.

Guido Aretinus, *Prologus in Antiphonarium,* in *Tres tractatuli,* ed. Joseph Smits van Waesberghe, Divitiae Musicae Artis A.III (Buren: Frits Knuf, 1975); translated in Strunk, *Source Readings,* 211–14.

Johannes Afflighemensis, *De musica cum tonario,* ed. Joseph Smits van Waesberghe, Corpus Scriptorum de Musica 1 (Rome: American Institute of Musicology, 1950); trans. Warren Babb in Palisca, *Hucbald,* 101–90.

Pseudo-Odo, *Dialogus,* in Gerbert, *Scriptores,* 1.25–59, 263–64, and Michel Huglo, “Der Prolog des Odo zugeschriebenen ‘Dialogus de Musica’,” *Archiv für Musikwissenschaft* 28 (1971): 138–39; trans. in Strunk, *Source Readings,* 198–210.

Sigebertus Gemblacensis (Sigebert of Gembloux), *Chronica, PL* 160.204, and *Liber de scriptoribus ecclesiasticis, PL* 160.579.

Johannes Tinctoris, *Expositio manus,* in *Opera theoretica,* 2 vols., ed. Albert Seay, Corpus Scriptorum de Musica 22 (Rome: American Institute of Musicology, 1975), 1: 27–57; trans. Albert Seay, “The *Expositio manus* of Johannes Tinctoris,” *Journal of Music Theory* 9 (1965): 194–232.

4. [Alan of Lille], *On the Six Wings of the Seraph*

translated by Bridget Balint

Alan of Lille, or Alanus de Insulis, to whom this treatise has been attributed, was born in Lille around 1120. He was educated in the Loire Valley schools, and perhaps at Chartres; he taught at Paris, then, probably in the 1180s, at Montpellier; he returned north and entered the Cistercian monastery at Cîteaux, dying in 1202 or 1203.

One of the most learned men of his generation, Alan earned the sobriquet *doctor universalis* (which he shares with Albert the Great, Aquinas's teacher). He is famed for the union of theology and poetry in his writings, which cover ground from pure theology (i.e., the *Summa "Quoniam homines")* to biblical commentary (*Elucidatio in cantica canticorum),* practical theology and sermons, and literary works like *De planctu Naturae* (*The Plaint of Nature).* He probably also wrote a commentary on the *Rhetorica ad Herennium,* the so-called "Alanus" commentary of the later twelfth century. This commentary addresses in detail the mnemonic section in Book 3 of the *Ad Herennium,* explaining its terminology and expanding its examples in a way that shows the author to have understood the ancient principles discussed there.

Why write a mnemonic treatise on penance? During the twelfth century the Church's doctrine of penance was under a two-pronged attack: some argued that there was no scriptural basis for the sacrament, while others rejected it on the grounds that it was administered by corrupt priests and therefore invalid. Alan of Lille addressed this issue numerous times, in *Contra haereticos (Against Heretics), Ars praedicandi* (*The Art of Preaching),* and *Liber poenitentialis* (*Book of Penitence),* so it is not surprising to find a work like *On the Six Wings* attributed to him. This small treatise accomplishes a number of educational objectives. First, by placing it in the context of an Old Testament vision, the treatise gives legitimacy to the disputed doctrine of penance by attaching it to a profound moment of direct divine revelation. Second, it crystallizes the theologically important but nebulous idea of forgiveness of sin into a process with discrete stages and assembles these stages into a picture. The image of penance as a seraph is quite imposing when seen as a whole, but, because it is easily understood through memorization of its thirty logically placed components, penance becomes a very livable and humane sort of doctrine, indispensable to any twelfth-century reader striving for holiness.

Although at least 21 of 53 known manuscripts of this work name Alan as the author, the attribution is probably incorrect at least in part.The first part, the commentary on Isaiah's vision, was in fact copied with a few minor modifications from Hugh of St. Victor's meditation, *De arca Noe morali (A Moralized Reading of Noah's Ark).* The commentary is not only upon the text in Isaiah, but also includes matter referring to the *Majestas Domini,* the drawing of the Divine Majesty that surrounds the ground plan of the Ark in Hugh's meditational "picture" of the Ark's construction (see Selection 2). This meditational picture in turn served as the organizational plan for the moralized reading of Noah's Ark copied in the first part of *On the Six Wings.*

The second part of *On the Six Wings,* the orderly exposition of each feather of the seraph's wings, may well be Alan's, but evidence on this point is inconclusive. It appears in a group of English manuscripts attributed to Clement, a twelfth-century canon and prior of the Augustinian house of Llanthony in the diocese of Gloucester. This manuscript tradition appears to be older than the French one. In her essay on works attributed to Alan, M.-T. D'Alverny admits two possibilities for this text. Either Clement wrote the second part, and in its manuscript association with Alan's *Liber poenitentialis* it was eventually attributed to the more famous author, or Alan indeed was the author and Clement copied the piece soon afterward, perhaps affixing his name simply as the scribe. Stylistically speaking, the enumeration of each wing's five feathers is unremarkable, and attribution to either writer is possible. Clement is known to have written a number of scriptural commentaries, so this sort of writing, although different in tone, would certainly be within the spectrum of genres he might have approached (D'Alverny,"Alain de Lille," 27–28).

D'Alverny has also suggested that perhaps Alan used this little work alongside his *Liber poenitentialis* as a teaching tool, as there is some material similarity between them, for example, in their emphasis on compunction as the basis for sound penance. No doubt the treatise would have been a valuable pedagogic tool. It would also have served the compositional needs of a preacher or confessor speaking about the complex aspects of this profound, essential sacrament. Indeed, the thirty feathers of the six wings are presented as the headings of a variety of topics, consisting of biblical references and of general pastoral advice, which serve a purpose like that of the common ethical topics emphasized in classical rhetoric as essential for composing speeches.

The detailed development of the image from Isaiah, one that would be familiar to Alan's audience, serves as a pictorial memory aid, setting a narrative context for the analysis to follow.Then the orderly

analysis of penitential concepts and their attachment to separate "compartments" within the six wings creates a series of mental spaces in which to place each concept at hand, rather in the fashion of making locations commended by Hugh of St. Victor as the best method for memorizing segments of psalm text (Selection 1). Each of the seraph's six wings has five feathers, and the numerical pattern is complemented by a metrical rhythm in the names of the feathers themselves. For instance, the five feathers of the second wing, *satisfactio,* are *peccati abrenuntiatio, lacrymarum effusio, carnis maceratio, eleemosynarum largitio,* and *orationis devotio.* Each of these two-word phrases has the same syntax, a descriptive genitive and an abstract substantive ending in *-io,* so that a recitation of this list aloud would have a distinctive sound and rhythm–an aid to memory along with the seraphic image. Such attention to the mnemonic value of patterns, including meterand internal rhyme, became a standard feature of later medieval *artes praedicandi.*

How did the figure of an angel with six wings come to be misidentified as a "cherub" by exegetes who were intimately familiar with the biblical texts, and who therefore knew that in Isaiah's vision of the Divine Throne God is served by six-winged creatures explicitly identified as seraphim (Isa. 6: 2)? The answer is a lesson in the difficulties of meticulously collating and then having to justify contradictory biblical texts. As Alan says, his figure is depicted according to the visions of Isaiah and Ezekiel combined. However, the two prophets envisioned different creatures and called them by different names.

There are actually three major visions of the Divine Throne in the Bible: Isaiah 6, Ezekiel 1 and 10, and Revelation 4. Isaiah states that "seraphim" stood about the Lord on His Throne, and each had six wings; with one set they covered His feet, with one His face, and with one they flew. (Contemporary scholars interpret the Hebrew to state that the seraphim covered their own feet and faces with their wings, but medieval exegetes, as our selection demonstrates, generally thought otherwise.) They fly close to the burning altar of sacrifice and, with a hot coal, one of them purifies the mouth of the prophet so that he can undertake his mission. In Ezekiel 1, the Divine Throne is accompanied by four "living creatures" *(animalia),* each with four wings and four faces, the face of a man, a lion, a bull, and an eagle (Ezek. 1: 4–11). These four-winged creatures are identified specifically as "cherubim" (Ezek. 10:15). Collectively they have charge of a holy fire from which the prophet is commanded to take hot coals to scatter throughout the city (Ezek. 10: 2–6).

In Revelation 4, the visions of Isaiah and Ezekiel appear to have been conflated. The Divine Throne is attended by four creatures

(animalia), each having six wings full of eyes, the first being like a lion, the second like a calf, the third like a man, and the fourth like an eagle (Rev. 4: 6–8). Like the seraphim in Isaiah, these creatures also sing "Sanctus, sanctus, sanctus" as they attend the Throne. But beyond the designation "animalia," they are not further identified as angels at all, let alone cherubim or seraphim. By the second century, early Christian commentary on Revelation had identified these four Living Creatures with the evangelists, not with angels, and subsequent visual convention cemented this identification.

To add to the confusion, the sculpted cherubim commanded by Solomon for the Mercy Seat of the First Temple had only two wings (1 Kings 6: 23–27); so, apparently, did the figures of cherubim which, at God's commandment, attended the Mercy Seat of the Ark of the Covenant (Exod. 25:18–20).Though the term "cherubim" is far more common in the Bible than is "seraphim" (a name occurring only in Isaiah), as names of the two highest angelic orders their distinction was rigorously maintained in scriptural exegesis by etymology. "Seraphim" was said by Jerome to be derived from a word meaning *ardens,* "burning" (Jerome, *Commentary on Habakkuk, PL* 25, 1309) while the cherubim were "preeminent in wisdom" (Jerome, *Epistola* 103, *PL* 22, 548). They were also distinguished from each other in traditional enumerations of the angelic hierarchies.

But there was clearly also some slippage between the two names, especially in contexts that were not primarily exegetical. In the same place where he distinguishes the etymology of "seraphim," Jerome goes on to say that a pair of either cherubim or seraphim can represent the Old and New Testaments, suggesting that the two orders in their role as guardians of the divine nature were considered more or less equivalent (Jerome, *Commentary on Habakkuk, PL* 25, 1309). By the twelfth century, despite Isaiah's definite identification of them as seraphim, six-winged figures were called "cherubim" in some monastic writing. For example, the monk Idung of Prüfening praised the triple habit of the Cistercians over that of the Cluniacs because it had six wings like the cherubim while the Cluniacs had only four (*Dialogue of two monks* 3.46, ed. Huygens,465; see Giles Constable, *The Reformation of the Twelfth Century* [Cambridge: Cambridge University Press 1996] for some additional references).

Amid this confusion, we have decided in our English title to name the six-winged figure a seraph, because Alan's treatise itself, in its exegesis of Isaiah 6, calls the angel being discussed a seraph, never using the term cherub. But we do note that, despite what the text says, the title given in many manuscripts to the independent drawing is "The Cherub."

The Drawing

The drawing accompanying this translation is based on an image in Yale University, Beinecke Library MS.416, fol. 8. The original image, of which a reproduction is also given, has been simplified and the Latin titles translated into English to accord with the translation published here. The Beinecke manuscript drawing, from the monastery of Kempen in Germany, was made in the late fourteenth century. It contains the text of Alan's treatise, to which this drawing serves as the summary preface. But after the thirteenth century this drawing was commonly detached from the treatise and collected with a number of other meditational diagrams into an encyclopedic picture-treatise called *Speculum theologiae* (*The Mirror of Theology*). As part of this cycle, it was called simply "The Cherub." The "Tower of Wisdom" diagram, presented and discussed later in this anthology (Selection 10), was also part of the *Speculum theologiae* cycle. However, the model sermon *On the Six Wings* continued also to be copied together with the diagram in the original way. The German manuscript whose illustration we have adapted presents the sermon text and the drawing together, though it appears that the drawing was made sometime after the text and inserted into this manuscript to accompany it. The earliest surviving drawing accompanying the treatise is in Cambridge,Corpus Christi College MS 66, a manuscript from Sawley Abbey in England, made around 1200.Versions of the figure, together with the titles on the wings, continued to be made well into the epoch of printing.

SOURCE: Translated from [Alan of Lille], *De sex aliis Cherubim, PL* 210. 269–80.

FURTHER READING: On the authorship of this treatise, see M.-T. D'Alverny, "Alain de Lille: Problèmes d'attribution," in *Alain de Lille, Gautier de Châtillon, Jakemart Giélée et leur temps,* ed. H. Roussel and François Suard (Lille: Presses Universitaires de Lille, 1980), 27–46. On Alan of Lille's theology see especially G. R. Evans, *Alan of Lille: The Frontiers of Theology in the Later Twelfth Century* (Cambridge: Cambridge University Press, 1983). Jaroslav Pelikan has a concise sketch of the much-discussed sacrament of penance in the twelfth century in *The Growth of Medieval Theology (600–1300),* volume 3 of *The Christian Tradition: A History of the Development of Doctrine* (Chicago: University of Chicago Press, 1978). The role of the "Alanus" commentary in the medieval transmission of the ancient *Rhetorica ad Herennium* is discussed in Ward, *Ciceronian Rhetoric.* Though this commentary has not yet been edited, an instructively parallel twelfth-century commentary by Thierry of Chartres (composed abouta half-century earlier) has been edited by Karin Margareta Fredborg, *The Latin Rhetorical Commentaries by Thierry of Chartres*

(Toronto: Pontifical Institute of Mediaeval Studies, 1988). On mnemonic preaching devices, see, in addition to the works by D'Avray and Berlioz listed in the General Bibliography, the art of preaching (composed c. 1322) by Robert of Basevorn, translated in *Three Medieval Rhetorical Arts,* ed. James J. Murphy (Berkeley: University of California Press, 1971), and the memory advice of Francesc Eiximenis (Selection 8) and Thomas Bradwardine (Selection 9). Idung of Prüfening's *Dialogus duorum monachorum* has been edited by R. B.C. Huygens, *Le moine Idung et ses deux ouvrages* (Spoleto: Centro Italiano di Studi sull'Alto Medioevo, 1980) and translated in Idung of Prüfening, *Cistercians and Cluniacs: The Case for Cîteaux* (Kalamazoo: Cistercian Publications, 1977).The various independent redactions of the drawing are discussed in Sandler, *Psalter;* the manuscript drawing we have used is described in Barbara Shailor, *Catalogue of Medieval and Renaissance Manuscripts in the Beinecke Rare Book and Manuscript Library, Yale University* (Binghamton, N.Y.: Medieval and Renaissance Texts and Studies, 1984–92).

–Bridget Balint and Mary Carruthers

Part 1: Commentary on Isaiah 6

To explain the figure of the seraph properly, we must consider its textual source: "I saw the Lord sitting upon a throne high and elevated" (Isa. 6: i). The throne is "high" because it has been situated on high, and "elevated" because it has been lifted from the lower regions to the higher. So the "high throne" is equivalent to the angelic spirits, and the "elevated throne" to the souls of the saints, lifted from the abyss of this world to the joys of heavenly peace; and since God presides over both, He is therefore said to sit upon a throne high and elevated.

In the following verses it is written "All the earth is full of his glory" (Isa. 6: 3). By "earth" Isaiah means all of corporeal creation, which is full of the glory of God, since the divine essence, just as it presides over spiritual creation by thought, similarly fills corporeal creation by ruling and arraying it. For as it is said elsewhere: "Do I not fill heaven and earth?" (Jer. 23: 24) as well as "Heaven is my throne, and the earth my footstool" (Isa. 66: 1). Here Isaiah writes: "I saw the Lord sitting . . . and his train filled the temple" (Isa. 6: 1).[1] The temple is the intellectual capacity of the angelic spirit, and of men; it is filled with those beings that are under God Himself because the immensity of the divine works is so great that no human intelligence is sufficient to comprehend them fully. Contemplation of the divine works fills my heart, but my heart does not comprehend their immensity. How then will we, who are unable fully to grasp even his works in full, be able

to comprehend their creator?

We can also say that this “throne high and elevated” where the Lord sits is the eternity of godliness, since of Him alone is it said “He inhabits eternity” (Isa. 57: 15). It is not because God is distinct from His eternity, but because the throne is an attribute of rulers, that we properly say that He sits on the throne of eternity: for just as we find no beginning or end of His essence, in the same manner, neither beginning nor end of His omnipotence can be found. He has always existed, always all-powerful, always complete and perfect in and of Himself, without excess. Therefore the prophet says: “I saw the Lord sitting upon his throne high and elevated.” By virtue of godliness He surpasses every creature by his timelessness, transcends them in His dignity, and sets them in order by His power.

Figure 4.1. Yale University, Beinecke Library MS 416, fol. 8r. Reproduced by permission of Beinecke Rare Book and Manuscript Library.

Figure 4.2. “The Six-Winged Seraph.” Drawing by Ben Whitehouse.

In the text follows: “Those things which were subject to him filled the temple” (Isa. 6: 1). In this passage, we can understand Isaiah to mean the cycle of time and the turning of the ages: for when time returns unto itself in its course, it circumscribes the temple by creating its very circumference. We ought to understand the phrase “the things subject to Him” to mean that every era of the ages is filled with the works of God, and every generation should tremble at the wonders of God.

[col. 270] Alternatively, we can read the text in this way: “those things that are under Him filled the temple,” since whatever unfolds in time is found within, that is to say *under,* eternity. The immensity of eternity encompasses temporal limits within itself—for He who never

began is prior to time, and He who knows no end is beyond time; and He is above time, who suffers no mutability.

"Upon it stood the seraphim" (Isa. 6: 2). The two seraphim are the two Testaments. The seraphim—the word means "burning"—artfully signify divine Scripture, which illuminates its readers first through understanding, then makes them burn brighter through love. (Indeed, we know that a thing must first burn in order to kindle any flame.) In the same way, Scripture, displaying to our mind what it ought to desire, first illuminates the mind, then makes it burn.

Scripture "burns" because it creates ardent souls, just as elsewhere, a thing that makes something else luminous is said to illuminate it. The apostle Peter writes of Scripture: "We have the more firm prophetical word: where-unto you do well to attend, as to a light that shineth in a dark place, until the day dawn and the day star arise in your hearts" (2 Pet. 1: 19). And perhaps Isaiah writes in accordance with Peter's metaphor that describes the effect Scripture has upon the hearts of those who hear it, when he writes, "Upon it stood the seraphim." The seraphim, that is, the Scriptures, rise when they lift us up;[2] they walk when they make us move forward; and they stand when they strengthen us in a holy intention.

But we must ask why God is said to sit upon a throne, and why the seraph is said to stand rather than sit upon it. Since above we interpreted this throne in three different ways,[3] we must model our exposition upon each of these methods. If, for the throne of God, we understand "spiritual creation," God is properly described as sitting upon the throne, since the divinity of God, although it is situated above all things, neither gains in virtue nor grows in wisdom; for fullness cannot be increased, nor can eternity be varied. As for the second interpretation, the human mind, as often as it is illuminated by the understanding of Scripture, is elevated to the contemplation of heavenly things; if, even surpassing the choruses of angels, it proceeds to the very presence of its Creator, it ascends the throne in a certain sense, although it stands rather than sits. For it arrives there by advancing through toil to a place where it did not have the ability to stay by nature; and standing is a characteristic of the toiling soul, while sitting is characteristic of the soul at rest.

With regard to the third interpretation, no one but God is seated upon the throne of eternity, while we stand, since we begin to reach through grace the place where He is by His nature. Nor are we able finally to arrive at that throne except through the travail of death. In the end, though we are by nature wretched slaves, we are made heirs of eternity by adoption.

[col. 271] "There were six wings on the one, and six wings on the other" (Isa. 6: 2). That is, each of them had six wings. Each of the two

hid his own body (not the Lord's) with two of his wings, which accounts for the first pair; each seraph also extended two wings, one to cover the face (the Lord's face, not his own); the other, to cover the feet (the Lord's, not his own). This accounts for the second pair. And each seraph flew with two wings, alternating one after the other, accounting for the third pair. So if the seraph stands for sacred Scripture, the three pairs of wings are the three interpretations of that Scripture—historical, allegorical, tropological—and each of these interpretations is twofold, kindling the souls of readers to love of God as well as to love of neighbor.

The two wings that cover the body of the seraph represent the historical method, which conceals mystical interpretations of the text with a veil of literality. The two wings that are extended from the Lord's head to His feet represent the allegorical, since when we learn the mystical meanings of divine Scripture we gain, by illumination of the mind, an understanding of the Lord's divinity; and this way of understanding is prior to any other. But let it be understood that the wings, extended in this manner all the way to the head, also reach the feet, and touching both extremes, conceal them; since as often as we are taken up to a contemplation of the Lord's eternity by a superextension of mind, we find no beginning or end in Him. We stretch out wings to the body when we think of Him as having existed before all things; but with the same wings we conceal His head from ourselves, inasmuch as we find no end in Him. We touch His head with our wings when we consider Him as existing after all things, not in time but in eternity; but we touch His feet, since the more the human mind strives to comprehend eternity, the more we marvel that the Lord surpasses our understanding.[4]

What is actually written in Isaiah—"they covered His face" and not His head–must be understood in the same way as what was said to Moses: "You cannot see my face, for no man will see me and live" (Exod. 33: 20) since this is the full contemplation of divinity that is promised to the saints in eternal life, about which the apostle writes "We will see Him face to face," and "Then I shall know even as I am known" (1 Cor. 13: 12). From those still dwelling in this state of mortality, the Lord's face is veiled and hidden; in that eternity, on the contrary, it is not veiled but revealed and made manifest, just as in the Gospel the Lord says of the good angels: "The angels always see the face of my Father who is in heaven" (Matt. 18: 10). Therefore, since it is appropriate in my treatise that the Lord's face remain bare, we leave His face uncovered, not altering the words of the prophecy, but setting them aside, so that what is written—"the angels see the face of my father"—can be valid, even though it is true that in God no beginning can be understood. And the other things we seem to arrange

differently are to be referred not to the prophecy, but to the picture.

"They flew with two wings." These two wings with which the seraphim flew signify tropology; [col. 272] since we, by reading divine Scripture, are instructed in good works as if lifted to the heights by wings of some sort; we fly with these wings, "by turns one after another," when we exhort each other to the practice of good works. Taking flight in this way, we proclaim "Holy, Holy" if, through our good works, we busy ourselves in extending glory—not our own glory, but that of our father who is in heaven. For what is it to proclaim "Holy, Holy"? It is to declare publicly the glory of our creator that we have recognized privately.

Having shown what it means when we read that the head and the feet of the Lord are hidden, we will set out an interpretation of the rest of His body. If we say that the head of God represents what existed before the creation of the universe, and His feet represent what will come to be after the completion of this age, we correctly understand the length of His body to represent the interval of time between the beginning and the end. Head and feet are thus covered because we can gain knowledge neither of the first things nor of the last. The body is visible, because we see what happens in the present age. This body is the Church, which began at the dawn of the universe, and will endure to the end of the age. It is the arc that extends from the head to the feet,[5] since the holy Church extends from the beginning to the end through the succession of generations, so that it will generate a complete divine body, rather than an incomplete one; of course, if it were already complete, as the Apostle says, the end of the world would already be at hand.

We must recognize that, in the same way as with a human person, certain things are located around the feet of God, being neither in nor of His body; others are in His body, but are not of His body. So it is with body of Christ, that is, the Church, which lives amidst a savage nation: when it sustains the attacks of the infidels, it is pounded like an Ark by the surges of the storms outside. When the Church suffers tribulation because of false brothers, it is tormented as a body is by ill humors inside. Whatever acts contrary to the body therefore, whether it is internal or external, is not of the body.

The arms of the Lord embrace everything on both sides, signifying that all things are subject to His power, and that no one can flee from His hand, whether the right hand of reward or the left hand of condemnation. Consider how much more careful, then, the arms and other limbs are about the well-being of the body, recognizing the authority of the head: for the head, which can perceive danger by sensory awareness and effectively provide a remedy, knows what benefits the body. It is the head that sets a course upon the sea and

knows how to steer the body, that is, the Church, in various ways, like the Ark in the flood. This is Christ the Helmsman and He Himself is the port or destination; He guides the Ark, or the Church, which is His body, through the tempests of this life, and through Himself leads the Church to Himself.

So that this image might be even clearer to you, I have depicted the entire person of Christ, that is, the head with the body, in a visible form, so that you may be able to understand more easily what is said about the part you cannot see. I have wished to depict for you a person like the one Isaiah claims he saw [col. 273] so that the image set before your eyes agrees with the explanation of Scripture. And lest we exceed your limits by giving you too much information, I will end here. For even if it is not enough for my audience, it is sufficient for me to have written this much about the feet of the one sitting upon the elevated throne, which the seraphim covered with two wings. Having begun with His face, I have proceeded through the middle to His feet, following the proper path, according to the vision of Isaiah and Ezekiel.

Part 2: The Seraph's Six Wings

The First Wing

The first wing is *confession,* not of praise, as in "confess praise to the Lord for He is good, for His mercy endureth for ever" (Ps. 117: 29), but a confession of fault, as in "confess therefore your sins one to another" (Jas. 5: 16). This confession is the self-accusing demonstration of sin; it is the mournful avowal of one's own weakness, ignorance, and malice when one's conscience is pricked with remorse.

The first feather of this wing is *truth,* which shuts out every artifice; for a confession must not be fabricated or simulated, but true.

The second feather of the first wing:

The second feather is *wholeness,* which excludes abbreviation and division, for a confession ought to be complete, not shortened or divided. Abbreviation conceals sins, keeping to itself acts that it regrets, but does not regret altogether. Abbreviation holds back other things in which it delights. But it is the impiety of unbelief to hope for abbreviated mercy from Him who is just and justice Himself. Even a single wound is enough to be fatal.

Division, on the other hand, reveals everything, but not to one person. There are certain people, according to Saint Augustine, who fully regret having sinned, but led by shame they divide their confession internally so that they can tell different things to different priests; and the sins they conceal from one they keep to reveal to

someone else. In a way, such men praise themselves and verge on hypocrisy; and they always lack the whole of the forgiveness that they think they find in bits and pieces.

Therefore everything, especially mortal sins, ought to be revealed to one person in confession; and not only wicked deeds, but their circumstances as well. That is to say, the place, time, manner, number, people involved, and whatever similar details that are relevant must not be carelessly omitted, but ought to be carefully detailed in confession. For there is a great difference between one place and another, one time and another, one manner and another, and one person and another. A bad habit, persisted in over time and repeated, tries God's patience (which summons us to penitence) and calls down divine retribution upon itself. Therefore, the person, gender, age, education, position, necessity, and rank, must be carefully weighed and explicitly made known. Let whoever makes a confession, then, take time to consider each of these factors.

The third feather of the first wing:

The third feather is *steadfastness,* because a confession ought to be steadfast and firm. This steadfastness expels the ten things that hinder confession. And what are these ten things? Shame, fear, contempt for the priest, hopelessness, [col. 274] presumption, perversity, ignorance, forgetfulness, carelessness, and duress (which alone is excusable). The virtue of fortitude will vigorously resist shame, weighing the inevitability of the danger that threatens unless one reveals one's sins. The fruit of patience will expel the fear struck in one's heart by the punishment to be inflicted. Reverence, veneration, and the love owed to the vicar of Christ will completely empty out any contempt for the priest. The kindness of divine mercy will eliminate hopelessness, and the rigid severity of divine justice will root out presumption. The rationality of faith will end perversity, and providence will shun ignorance. The zealous examination of morals and deeds, and recalling them to memory, will enlighten the shadows of forgetfulness. Spiritual fervor will pluck out and destroy the slowness and tepidity of carelessness. And let no carelessness of any sort pave the way for duress.

The fourth feather of the first wing:

The fourth feather is *humility,* which shuts out the figure of pride. A person making confession should have a humble mind, a humble tongue, and a humble aspect, for "God resists the proud and gives grace to the humble" (Jas. 4: 6).

The fifth feather of the first wing:

The fifth feather is *simplicity*. It reproaches its own weakness, its own ignorance, and its own wickedness, defending nothing, excusing nothing, minimizing nothing. Therefore, a confession must be true,

complete, firm, humble, and simple: true, without pretense; firm, without stammering, hesitation, or desperation; humble, without boasting or presumption; simple, without comparison to anyone else, without excuse or defense. And this is the first feather with its wings.

The Second Wing

Reparation follows confession. Compunction gives rise to these first two wings and shapes them. In every act of penitence, these three things are acknowledged to be necessary: compunction, confession, reparation. Compunction troubles, confession accuses, reparation soothes; compunction seeks out the occurrence of illness, confession makes it known, reparation cures it. Compunction enumerates evil deeds, confession condemns them, reparation makes amends; compunction lances the abscess, confession expels the diseased blood, reparation applies a poultice. Compunction discovers the wound, confession opens it, reparation restores health.

For compunction is the contrition of the heart, or the suffering of the soul, which binds together what was broken; it is a sharp bitterness of spirit that unites what was divided; and it engenders a savor of wondrous sweetness. It is written, "Rend your hearts, and not your garments" (Joel 2:13) and in another place, "in your chambers be sorry for your sins" (Ps. 4: 5).

Compunction has a twofold cause consisting of hope and fear. Fear is the efficient cause, hope the final cause. Fear, because it specifies how wondrously man [col. 275] was made by his Creator, how generously he was nurtured, how virtuous he was made in substance, and how he was gifted, in his nature, with the power of reasoning; and along with the other good things that the Creator has given to him, it precisely specifies the wicked deeds with which man has requited these good gifts. Fear also points out the stern judge and the threat of punishment; it strikes the soul with the horror of penalties, suffuses it with shame, rails at lawless actions, and disturbs the repose of sinful self-satisfaction. Fear, therefore, scrutinizing the manner and number of faults, attentive to the rigor of divine justice and to the severity of the judgment to come, goads the soul, and by goading it, expels sin.

How does fear have this power to drive out sin? Hope, the comforter, provides it and strengthens it. "For that fear is worthless which is not strengthened by faith." Nothing is lacking to those who fear God; but if hope is lacking, nothing good avails. It is written: "How great the multitude of the sweetness, O Lord, which thou hast hidden for them that fear thee!" (Ps. 30: 20). But there will be no sweetness unless it is provided by hope. Contrition of heart, therefore, springs from fear, and the fruit of this toil springs from hope. And

where does the comforting power of hope come from? From the divine promise. Listen to Scripture: “Hope in the Lord . . . and thou shalt be fed with riches” (Ps. 36: 3). And “hope in Him, and He will act” (Ps. 36: 5). And “The Lord has not forsaken them that hope in Him” (Jth. 13: 17). And “Blessed are all who trust in Him” (Ps. 2: 13). If you fear, and are therefore remorseful, hope in the Lord so that you may be reconciled with Him. If you fear God because he can condemn you to hell, hope in Him, “since He does not desire the death of the wicked, but that the wicked turn from their way, and live” (Ezek. 33: 11). If you fear because you are aware that “He knows the secrets of the heart” (Ps. 43: 22), hope, since “He will bring light to the hidden things of darkness” (1 Cor. 4: 5). If you fear because he lets nothing go unpunished, hope, since “He will redeem Israel from all his iniquities” (Ps. 129: 7). In this way, then, fear precedes compunction and accompanies virtue; then hope comes forth, and leads to the fruit of reconciliation. Through fear, compunction is aroused; through hope of the desired reconciliation, grace is gained. “Whenever he cries out, he will be saved” (cf. Ezek. 33: 12–15). Although fear brings groaning, hope gains salvation. I have briefly described what the heart’s compunction is, where it comes from, and what its purpose is. Now let us briefly touch on reparation, which is the second wing.

On reparation: the second wing:

Reparation is the full execution of the penance imposed, or the appropriate rebuke and reform of sinners.

The measure of rebuke and reform must be weighed according to the quality or quantity of the offense. “Bring forth therefore fruit worthy of penitence” (Matt. 3: 8; Luke 3: 8). For penitence is one thing, the fruit of penitence another. Just as a tree is one thing, its fruit another, penitence is the suffering for what has happened before, when you regret that you have done what is wicked. So when you reject and condemn your sins, you have penitence; but when, by means of subsequent reparation, [col. 276] you punish and correct your sins, you have the fruit of penitence. If what you have done displeases you, you are performing penitence, but if you root out and punish what you have done, you are performing the fruit of penitence. Penitence is the rejection of the deed; the fruit of penitence is the correction of the fault. Because the measure of correction must be weighed by the measure of the fault, it is proper to make the fruits worthy of the penitence. If the discomfort of the correction is smaller than your delight in the sin was, the fruit of your penitence is not worthy.

But you ask me, how can I know when my penitence is appropriate? Since you cannot know this, it is necessary to be penitent at all times. You can do enough, but you cannot do too much, and it is

better to do more than less. For this reason be watchful, busy yourself, give care, and apply your attention so that there may be an end to your sin, and no end to your devotion. In order to console a sinful conscience, however, put aside the manner and measure of exterior penitence at an appropriate time, so that when your penitence is fulfilled and perfected, you may begin to have confidence; and, healed of presumption, in the hope of divine mercy, you may begin to trust in the remission and forgiveness of sins. You will find this to be all the more true, the more sincerely you fulfill the penitence enjoined upon you.

The first feather of the second wing:

The first feather of this wing is the *renunciation of sin,* which shuts the door against the devil. To renounce sin is to turn from evil. Of the Psalmist who says "Turn from evil" (Ps. 36: 27), you may well ask, from what evil? From the evil of vanity, from the evil of injustice, from the evil of malice, from the evil of impiety. "I have not sat," says the Psalmist, "with the counsel of vanity, neither will I go in with the doers of unjust things; I have hated the assembly of malicious men, and with the wicked I will not sit" (Ps. 25: 4–5). Four states of mind give rise to these four vices, namely love of self, love of the world, hatred of one's brothers, and the lack of love of God. The first state of mind gives rise to vanity, the second, to injustice, the third, to malice, and the fourth, to impiety. Vanity turns in upon itself, injustice turns against others, malice is twisted against one's brothers, and impiety is displayed against God. Vain and senseless is he who is preoccupied with his own concerns; he is unjust who glories in the multitude of his possessions, fills the purse of greed, and even acquires for himself, through treachery, things belonging to his neighbors; he is malicious, who desires to do harm even when he is unable to; he is impious, who either does not believe in God, or if he does believe, disdains Him.

The second feather is the *outpouring of tears.* This washes the wounds of the sinner and makes them clean.

The third feather is the *mortification of the flesh.* This wipes the clean wound and dries it.

The fourth feather is the *bestowing of alms.* This binds what was injured, mends what was broken, and heals everything.

The fifth feather is the *devotion of prayer.* This protects what has been healed.

The Third Wing

The third wing is the *purity of the flesh.* That flesh is pure which no licentiousness contaminates, for extravagance roots out every seedling of virtue.

The first feather of this wing is *modesty of gaze.* This [col. 277]

shuts out wantonness. It circumscribes the eye, lest it be desirous of another—lest it look toward desiring a woman. He whose lascivious and inquisitive gaze rambles toward women's countenances is immodest in his very mind.

The second feather is *chastity of hearing.* Chaste ears do not listen to an insulting voice, they do not hear the words of those who curse and blaspheme, they do not give aid to false accusations, to lies or provocations, to shameful songs or play-acting; they are closed against hearing the judgment of blood, they listen to nothing obscene, and they turn away from all the mire of corruption.

The third feather is *decorousness of scent.* If someone smells a pleasant aroma, and seeks the aroma of goodness by works of mercy, this is a decorous scent. He who struts about daubed with fine perfumes is not perfumed with his virtue, but exhales a fetid odor, for the smell of his "sweetness" is the stench of monstrous vice.

The fourth feather is *temperance in eating.* This undermines the excess of gluttony and drunkenness. Woe to them "whose God is their belly, and whose glory is in their shame, and who mind earthly things" (Phil. 3: 19). So Gregory wrote, "When the belly is not restrained from indulgence, all the virtues at once are overwhelmed by the concupiscence of the flesh." We also read that the prince of cooks destroyed the walls of Jerusalem,[6] because the virtues of the soul are endangered when the belly is indulged. Regarding tippling and drunkenness the Lord says: "Take heed to yourselves, lest perhaps your hearts be overcharged with surfeiting and drunkenness and the cares of this life; and that day come upon you suddenly" (Luke 21: 34). Drunkenness is the parent of quarrels, the mother of rage, and the teacher of hideous wantonness. The drunkard does not have control of himself; the drunkard is scarcely human; the drunkard does not merely commit a sin, but he is himself a sin. Drunkenness is a flattering demon, a sweet poison, a willful madness, a seductive insult to propriety and modesty. Let no Christian know this vice.

The fifth feather is *sanctity of touch.* Lest the hand of a Christian come in contact with anything of sin, let his flesh touch nothing unclean, for if it does, it will become unclean. If any single limb would serve in the duties of the commandments of God, it must be declared to be clean; if it is indulgent beyond the written or divinely given laws, it must be declared or considered to be unclean; and these things are shameful. I believe this is the case, for the apostle says: "As you have yielded your bodies to serve uncleanness and iniquity, so now you must yield them to serve justice, for your sanctification" (Rom. 6: 19). Therefore, let your eye be virtuous, your ear chaste, your smell moderate, your taste sober, and your touch sacred.

The Fourth Wing

The fourth wing is *purity of mind.* The first feather of this wing is *decorous and proper emotion.* Let the emotion of desire be right and proper. It will be right, if you seek that which you ought to seek; it will be proper, if you seek as the virtue of honor directs you. Amnon [col. 278] loved his sister;[7] the emotion of love was right, but because he loved his sister as he should not have, this emotion was improper.

The second feather is the *delight of the mind in the Lord.* It has been written, "Delight in the Lord, and He will give you the requests of your heart" (Ps. 36: 4). The virtue of contemplation engenders and shapes this feather. About this the Lord says: "Mary has chosen the best part which shall not be taken from her" (Luke 10: 42).

The third feather is *pure and well-ordered thought.* Let the mind conceive nothing impure, but let discretion adapt pure thoughts to the present place and time.

The fourth feather is *holiness of will.* The angels brought peace from heaven to men of good will. "There is no peace for the wicked, says the Lord" (Isa. 48: 22). "There is manifold peace for those who love your law, and there is no discord among them" (Ps. II). O how desirable is the name of peace! How it confirms the stable foundation of the Christian religion! For although angels indeed said "Glory to God in the highest" they added, "peace on earth to men of good will" (Luke 2: 14) because angels hasten to associate with men in whose minds they think the purity of good will is present. After the dissolution of man's flesh, angels rejoice to carry up to the contemplation of true peace those men who, while they tarry in the flesh, consider everything they do and say to come forth from the root of good will. Even if weakness or ignorance at times prevents them from accomplishing the good works they desire, the integrity of good will which these men hold in their hearts will excuse them when finally they stand before the eyes of the highest judge.

The fifth feather is *sound and pure intention.* Regarding this the Lord says: "If your eye is sound, your whole body will be filled with light" (Matt. 6: 22). Here, the eye signifies intention, the body, action. We so interpret this passage of the Gospel, that we know all of our deeds to be pure and pleasing in the sight of God, if they are done with a sound heart, that is, with lofty intent, or with a view to love; since "the fulfillment of the law is love" (Rom. 13: 10). Here we ought to understand "the eye" as that intention by which we do what we do, for, if it is sound and pure, and regards what it ought to regard, then every deed we perform in accordance with it will necessarily be good. Matthew called these deeds "the entire body;" in this way the apostle calls "limbs" those deeds he disapproves of, and he recommends that

they and other such evils be punished: “Therefore mortify your limbs that are upon the earth—fornication, impurity, greed” (Col. 3: 5). Thus, it is not what someone does, but in what spirit he does it, that matters. For the entire fruit of the deed consists in the soundness of intention. Our careful consideration suggests what must be done: removing all hesitation, and placing a balance in our heart, [col. 279] let us weigh with a fair and just deliberation, whether it is full of honesty for all, whether it is heavy with fear of God, whether it is sound in sense, or whether it is light with human ostentation or any sort of presumption of will, whether vanity has diminished the weight of its worth, or empty glory has smiled favorably upon it.[8] And thus making a judgment at the public scale, that is, weighing it against the acts and the testimony of the prophets and apostles, let us keep what is worthy of reward as whole and perfect; and let us refuse, with every caution and diligence, what is imperfect and pernicious, or does not measure up.

The Fifth Wing

The fifth wing is *love of neighbor.* The first feather of this wing is to *injure no one in word or deed.* About this it is written: What you do not wish done to you, do not do to another (cf. Matt. 7: 12). The virtue of innocence shapes this feather. He is innocent who, even when he might be, is noxious to no one. “Who will go up to the mountain of the Lord? The man who is innocent of hand . . .” (Ps. 23: 3–4). Who is innocent of hand? “Who does not do evil unto his neighbor. The evil man is led to nothing in his sight” (Ps. 14: 3–4). Who else is this evil man but the devil? He who wishes to injure no one even when he might do so already feels the first stirring of love.

The second feather is to *benefit everyone in word and deed.* A brother assisting his brother is as a city armed and strong (cf. Prov. 18: 19). The virtue of mercy sustains this feather, and carries it to the peak of perfection. “Blessed are the merciful” (Matt. 5:7). He who is eager to benefit everyone, breathes the living warmth of true love.

The third feather is, not only *not to weep for goods used up for a friend,* but with the fortitude of true generosity, *not to feel the loss* ; always to rejoice in your heart for the magnitude of the benefits gathered for the use of one’s brothers. He who feels the loss is niggardly, not generous; he who does not rejoice, mourns. Regarding this feather it is written: “Who forgets an expense on account of a friend is just; the way of the greedy is hidden from him” (Prov. 12: 26).

The fourth feather is to *offer your life for your brother.* What does it mean to offer your life for your brother? To forsake your own will for the worldly salvation of your neighbor, and, in the moment of

necessity, to willingly undergo the trial of death for the eternal salvation of your brother. Of this it is written: "Greater love than this no one has, that one lay down his life for his friends" (John 15: 13). The ardor of love will blaze no brighter than this.

The fifth feather is to *persevere in these things.* The virtue of perseverance completes this. To him who perseveres, they say, the victory, not the battle, gives the crown.

*The Sixth Wing (*desire nothing but God, distribute your goods, relinquish all things, abandon your will, persevere in these things)

The sixth wing is *love of God.* Like the others, this wing has five feathers.

He has the first of these who *desires nothing other than God.* This is the motive of the Love of God.

He has the second feather who, on account of God, *distributes his goods,* who keeps part, but gives part away. This is the warmth of Love of God.

He has the third feather who, on account of God, *keeps nothing for himself,* but gives up everything. This is the keenness of Love of God.

He has the fourth feather who, on account of God denies his very self. He denies himself, who *abandons his own will* to do only the will of God. This is the ardor of Love of God.

He has the fifth feather who *perseveres in these things.* For "he who will persevere unto the end, he will be saved" (Matt. 10: 22). This is the unceasingness of Love of God.

These are the wings about which the Psalmist says: "Under the shadow of your wings protect me, from the sight of the impious who afflicted me" (Ps. 16: 8). And: "In the shadow of your wings I take refuge, until harm passes away" (Ps. 56: 2). These are the wings about which the same Psalmist says: "Who will give me the wings as of a dove, and I will fly, so I might rest" (Ps. 54: 7). I will fly, he says, abandoning earthly things, seeking heavenly ones, and I will rest in true freedom, enjoying eternal blessedness. Amen.

1. "His train" translates the Vulgate "quae sub ipso erant."

2. It seems here that *Seraphim* is treated as a singular formin the Latin, but I have translated it as plural throughout.

3. The angelic spirits, the souls of (human) saints, and the eternity of godliness.

4. In the *PL* edition, the following sentence appears at this point in the text, probably interpolated to refer to a particular illustration: "The thuribles hanging down on this side and that are used to signify the prayers of the contemplatives and of the other actives, prayers offered to the divine presence with the assistance of the holy angels."

5. A geometric arc; also, an Ark, for the mandorla here described resembles a ship or ark seen from above. Compare Hugh of St. Victor's "picture" of Noah's Ark in Selection 2.

6. An error, most likely from misreading a scribal abbreviation, has transformed

scriptural *Chaldaeorum* into *cocorum*. The general reference is to the account in 2 Kings 25: 8–21 of the destruction of the city by Nebuzaradan, leader of the Chaldean army.

7. Samuel 13:1–13 recounts the love of Amnon, David's son, for his sister Tamar, also beloved by their brother, Absalom

8. *Gloria arridet* (glory rejoices) is a phrase used of worldly—that is to say, empty—glory by Gregory the Great, *Moralium Libri* V.2.2 (*PL* 75.680). It was later echoed by numerous other writers.

5. Boncompagno da Signa, *On Memory*

translated by Sean Gallagher

Boncompagno da Signa (ca. 1170–after 1240) holds an important place in the history of the *ars dictaminis,* the art of composing official letters and documents that served as a principal expression of rhetorical thought in the twelfth and thirteenth centuries. During his years as teacher of rhetoric at the University of Bologna, from the mid-1190s to perhaps as late as the 1230s, Boncompagno wrote a group of works that together deal with almost every aspect of prose composition. As in many dictaminal manuals from the period, his writings on the subject consist in large part of collections of model letters, formulaic salutations and introductions, and rules for preparing certain types of documents, such as wills, privileges, and statutes. Despite the emphasis on public oratory (more specifically, judicial oratory) in the two Ciceronian treatises on rhetoric most widely read in the Middle Ages, the *De inventione* and the *Rhetorica ad Herennium,* there is little evidence of rhetorical theory being applied to the composition or presentation of public speeches prior to the thirteenth century. This appears to have been the case even at Bologna, the most important center for legal studies in medieval Europe and thus a logical place for training to be given in judicial oratory.

In this context Boncompagno's *Rhetorica novissima* (completed in 1235) represents a departure, not only from his own usual practice, but also from that of his contemporaries. The work focuses on judicial oratory, not letter writing, and though it includes numerous model passages and phrases of the sort found in dictaminal manuals, the author explicitly aims to provide a treatise on speechmaking that will be useful to students of civil and canon law. That in so doing he also wishes to diminish Cicero's stature as an authority on rhetoric is evident in the work's title, which derives from the medieval practice of referring to the *Ad Herennium* as Cicero's *Rhetorica nova,* and in his claim that the students in Bologna found it *cassata,* "inane." As he says, "in the judgment of the students, the rhetoric put together by Tullius Cicero is inane, wherefore it is never ordinarily read in lecture, or rather it is very obscurely taught and glossed over like a fable or a mechanical art."[1] Boncompagno's colorful and aggressive personality, which emerges clearly in his writings, appears to have been remarkable even by comparison with other medieval *dictatores,* a group notorious for fierce rivalries and combative prose. His penchant for practical jokes prompted the thirteenth-century Franciscan

chronicler Salimbene to describe him as “the greatest trickster *[maximus trufator]* of the Florentines.”

Boncompagno’s assessment both of the mood of his students and of the pedagogy of university rhetoric in his day, while somewhat exaggerated, nonetheless has validity. At the time he wrote, the *Ad Herennium* was taught without relevance to practical life; it was the subject of running commentaries that glossed the words of the ancient rhetoric with only sporadic efforts to relate it to contemporary situations of oratory.Teachers within this tradition themselves doubted the practicality of the ancient memory advice, especially on *memoria verborum.* Standard commentary on the text of *Ad Herennium* 3.21.34 said it was useful only for actors in ancient tragedies (hardly a flourishing career in thirteenth-century Bologna), not at all for pleaders of legal cases.

But Boncompagno specifically addresses his rhetoric to this underserved population of legal students. He invokes classical rhetoric only sparingly and tries to adjust his teaching to contemporary needs and experience. The selection that follows is typical of Boncompagno’s modernity, in such things as his reference to the seating arrangements at the recently concluded Fourth Lateran Council (1215) and his plans for an ideal classroom with lots of windows and good sight lines. His hostile attitude toward Ciceronian rhetoric (“inane”) can be explained not just by an arrogant temperament but by a more serious goal to teach an effective modern rhetoric to his law students. Though his up-to-the-minute rhetoric text was not in the long run successful, it represented a genuine effort to simplify, adapt, and above all make rhetoric into a practical subject for students.

Book 8, “On Memory,” is a good example of his method. Boncompagno’s consideration of *memoria* depends little on ancient models. Apart from maintaining the basic philosophical distinction made in the *Ad Herennium* between “natural” and “artificial” memory (the latter being the “supporter and helper” of the former), he avoids any mention of classical mnemonic precepts or techniques. His brief definition of the distinction is also quite different from the relatively lengthy treatment of it in the academic commentaries on the *Ad Herennium.* Boncompagno instead emphasizes the *ars,* the “craft” of memory, which cannot be learned by generalized rules alone but requires the active use of an individual’s imagination. In the terms of classical rhetoric, this mingling of memory and imagination may seem to amount to a confusion of *memoria* with *inventio.* This “confusion,” however, reflects a broader medieval understanding of the process of recollection, as exemplified in the type of meditative invention practiced by monks as they read and prayed over biblical texts. Medieval, too, is Boncompagno’s fondness for long lists—of things that

help or impede memory, of memorial signs found in the Bible, of physical and personality traits that help one put names to faces. Such enumerations recall the series of model letters and phrases of the dictaminal manuals. They recall as well the eclectic array of "signs" enumerated (though not at such length) in the second book of Augustine's *De doctrina Christiana.* When Boncompagno exercises his invention and provides a catalog of potential mnemonic signs—ranging from "inscriptions on wax tablets" to "gibbets" to "knights' standards" and even to "the slaps bishops give to adults during sacramental anointings"—one begins to perceive the richness of this kind of memorial imagination.

SOURCE: Translated from *Rhetorica novissima,* Book 8, ed. Augusto Gaudenzi, in *Scripta Anecdota Glossatorum,* Bibliotheca luridica Medii Aevi 2 (1892; rpt. Turin: Bottega d'Erasmo, 1962), 249–97.

FURTHER READING: Gaudenzi's standard edition is criticized, and plans for a new edition announced, in Franco-Lucio Schiavetto, "Un nuovo manoscritto della 'Rhetorica novissima' di Boncompagno," *Studi medievali* 3, 33 (1992): 825–28. Another important rhetorical treatise by Boncompagno, called simply "Boncompagnus," is summarized in Ludwig Rockinger, *Briefsteller und Formelbücher des elften bis vierzehnten Jahrhunderts* (1863; rpt. New York: Burt Franklin, 1961). The fullest general introduction to the *ars dictaminis* remains Chapter 5 in James J. Murphy, *Rhetoric in the Middle Ages: A History of Rhetorical Theory from St. Augustine to the Renaissance* (Berkeley: University of California Press, 1974). An extremely useful complement to Murphy is Martin Camargo, *Ars dictaminis, ars dictandi,*Typologie des sources du Moyen Âge occidental 60 (Turnhout: Brepols, 1991). On the commentary tradition at this time and Boncompagno's role in the teaching of rhetoric, Ward, *Ciceronian Rhetoric,* 126–29,181–92 presents the most balanced account; see also Mary Carruthers, "Boncompagno at the Cutting-Edge of Rhetoric: Rhetorical *Memoria* and the Craft of Memory," *Journal of Medieval Latin* 6 (1996): 44–64. Other reliable accounts are Terence O.Tunberg, "What Is Boncompagno's 'Newest Rhetoric'?" *Traditio* 42 (1986): 299–334; Ronald G.Witt, "Boncompagno and the Defense of Rhetoric," *Journal of Medieval and Renaissance Studies* 16 (1986:) 1–31; and Helene Wieruszowski, "Rhetoric and the Classics in Italian Education of the Thirteenth Century," in *Politics and Culture in Medieval Spain and Italy* (Rome: Edizioni di Storia e Letteratura, 1971), 594–97. The best comprehensive treatments of the University of Bologna are in Italian and French, but a good starting point can be found in J. K. Hyde's article on this university in *Dictionary of the Middle Ages* (New York: Scribner, 1983). Good introductions to the study of Plato at this time are Raymond Klibansky, *The Continuity of the Platonic Tradition*

During the Middle Ages (London: Warburg Institute, 1939) and Tullio Gregory, "The Platonic Inheritance," in *A History of Twelfth-Century Western Philosophy,* ed. Peter Dronke (Cambridge University Press, 1988).

–Mary Carruthers and Sean Gallagher

I. On Memory

(1) *What memory is*

Memory is a glorious and wonderful gift of nature, by which we recall the past, comprehend the present, and contemplate the future through its similarities with the past.

(2) *What natural memory is*

Natural memory is that which proceeds by the sole boon of nature, preceded by nothing artificial.

(3) *What artificial memory is*

Artificial memory is the supporter and helper of natural memory, because it serves it as it would a mistress; and it is called "artificial" after the word *ars,* because it has been artificially discovered by the subtlety of intelligence.

(4) *On the value of memory*

Memory is an indescribable good; for this reason human skill cannot find the necessary words of praise to extol it; for he who remembers well, by either natural or artificial means, gleams like the sun and, like light in the darkness, provides brightness.

(5) On the union of angelic and human nature, and how and when natural memory began to suffer a defect

Before the beginning of the world the highest Creator made the angelic nature, and he set apart the hosts of angels, from which many ranks fell with Lucifer. But afterward, God Himself, wanting to reform the defect of his angelic creation, formed man out of the mud of the earth and put in him the breath of life, that is, the soul or spirit. Therefore human nature seemed to be united with the angelic, and differed from it in nothing, except that the human body itself was matter—but the spirit was nature. But thereafter the first-formed man fell through disobedience; therefore he was made corruptible, and transmitted to his descendants the stuff of corruption itself, by which is corrupted the mass of human creation; consequently we all have lost the privilege of incorruptibility and the grace of remembering. According to philosophical teaching, the souls, before being infused in bodies, know everything and remember all things. But after the

infusion the bodies are so weighed down by mass that the souls are compelled miserably to seek again knowledge and memory.[2] But this opinion is to be thoroughly rejected since it is against theological teaching.

(6) On the arrangement of the human brain

Man is called a microcosm, that is, a lesser world, and he is called an inverted tree, because he is declared by philosophers to have roots at the top.[3] Moreover, they assert these roots to be the three chambers of the head, or the brain itself with its membranes. Likewise they say that the principal seat of the soul lies in the brain, even though they are understood to go against the assertion of God, who said that good and evil thoughts proceed from the heart. But although this latter statement is different, nevertheless it is not opposed: because the primary seat of the soul can be in the brain, and its natural operation in the heart. Finally, to avoid prolixity I refrain from considering systematically the chambers of the head from a physical point of view, because it is firmly believed that the seat of the soul is in the posterior chamber, and the memorial faculty resides there.

(7) *On the predominant humor by which natural memory is sometimes assisted, sometimes impeded*

Of the four humors, one is always dominant in the human body. Thus, some are said to be of a sanguine disposition, some of a phlegmatic, some of a choleric, and some of a melancholic.[4] The sanguine are said to remember well on account of the disposition and moderation of this humor, which is of an amicable and refined nature; therefore it is said that only blood produces nourishment for human bodies. Phlegmatics, however, do not remember in this way, because phlegm is the most compact and viscous humor. Yet phlegm broken down with heat changes into blood. Cholerics, on account of the ferocity and mutability of the humor, easily increase their knowledge and quickly commit to memory. However, they are unable to retain, because what comes suddenly, recedes suddenly, and what is in constant motion cannot remain in place. Melancholics, to be sure, acquire knowledge only with the greatest difficulty, because this hard humor is of the earth. But after long labors they preserve what they have heard, because what is imprinted into a substance with solidity and hardness is not moved with ease. It is to be noted, though, that “melancholy” is the name of an illness as well as the name of a humor. Thus those who, according to their humor, are naturally melancholic have the aforesaid nature of learning and preserving. Those who labor for a time under the effect of a melancholic sickness and who are not naturally melancholic, easily acquire knowledge and are able to remember it admirably, for the reason that the vapors of a

melancholic illness consume the harmful vapors of the other humors, unless perhaps the melancholic humor putrefies in the vessels. However, if those who are naturally melancholic should labor sometimes under that illness, they are unable to learn anything, nor commit something to memory, because like added to like does not alter, but augments. Moreover, when they sleep, through the ascent of these same melancholic vapors, there appear to them black images of the dead, graves, and hellish monsters, of which they often speak foolishly.[5]

(8) *On forgetfulness*

I have seen a man so cast down into a labyrinth of forgetfulness that sometimes he was unable to recall his own name. I remember seeing another who would ask his neighbors the names of his own sons, and he often looked for the mule on which he sat. A certain man put on a new [leather] apron, and because he had put aside the old one, he forgot so totally the new one, that he lodged a complaint about the cobblers before the authorities. A certain priest always carried the name of his servant written down in his bag; and when he played at dice, he questioned his opponent about the points [on the dice]. Why should I say more? I have seen many people who on occasion asked others for things they had in their own hands. Artificial means are of no profit to forgetful people of this sort, because they are always occupied with abnormal thoughts.

(9) That celestial constellations may work together to preserve and destroy memory

Some people believe that the celestial constellations (in their creation and origin) may perform the aforesaid effects and similar ones resulting in the preservation and destruction of memory; I firmly believe this, seeing that lower bodies are without doubt ordered according to higher ones, as we can see in brains and cankers, the centers of which constitute themselves according to the waxing and waning of the moon. We cannot know fully the operations of heavenly bodies, however, nor are we capable of artificially transforming something, because only God has the natural world under his command.

(10) On the principal impediments to remembering

The principal impediments to remembering are useless worries, greedy ambitions, anxieties about those dear to us, ties to women, drink other than in moderation, and an excess of eating. For whenever food and drink are consumed unnaturally, they cannot be digested owing to a lack of natural heat. For this reason, a harmful vapor rises up like a whirlwind, and heading for the brain overfills its

membranes; consequently sense perception is impeded and the memory chamber is obscured. These also pose obstacles: anger, pride, rage, sadness, fear, harmful play, clattering, noise, avarice, misery, domestic worries, overwork, excessive copulation, meals that generate thick and viscous humors, moldy wine, bad air, stench, excessive wakefulness or sleep, or fasting beyond necessity. Likewise, chronic illness, the constraint of one's own will, and senility, in which the animal and natural capacities begin to suffer a weakening—these are known to impede very much the natural memory. Moreover, certain people hold the opinion that the blind and the deaf recollect well; since when one sense is removed, another intensifies. But in this opinion they are seen to be in error, since the memory is not a sense; on the contrary, it is a principal capacity of the soul. The blind, however, in what they hear, and the deaf, in what they see, recollect not well, but competently. Thus we have never seen the blind or deaf attain the height of philosophy. Nevertheless, the blind recall much better than the deaf, since hearing, in this respect, is known to be superior to sight, and blindness to deafness.

(11) *On the principal supports by which memory is strengthened*

Take pains to avoid the impediments contained in the preceding chapter, because the clearest knowledge is conveyed through study of its opposites. Now, therefore, let us make known artificial supports that assist natural memory. First, of course, let the intellect [animus] of him who wishes to remember rejoice, because rejoicing much strengthens the ability to remember. Let him who is going to remember enjoy the freedom he has longed for, because as has been said above, the constraint of one's own will does great harm. Let him enjoy fresh, free air, because the container changes the contained. Let the diet be tempered according to the nature of the person's complexion, and let it be eaten with moderation, for nature desires neither too much nor too little, but always delights in moderation. Let the brain be purged of phlegmatic and viscous humors. Let a salve of pearl and an electuary sometimes be enjoyed; these are said to be principal in strengthening the memorial chamber. Sprinkle the face sometimes with napium or rose water, because from these scents the spirit is strengthened. Let pleasure be taken in the scents of spices and herbs with interruptions, however, so that their nature may be enjoyed more agreeably; for if too frequently smelled, out of too much fullness the perception of smelling is reduced, and in this way no help is gained from the sweet scents. Let one's clothes not be too soft, rough, or worn out with age. For soft things urge one to lasciviousness, and rough or old clothes induce depression and shame. Stop now and then in delightful and pleasant spots, in which one may

hear nightingales and the sweet-sounding running of brooks. Consort with those friends whom it pleases one to see, because the companionship of those who are not able to please causes the greatest injury to the memory. Let conversation with women be most rare for him; and they should please more by their wisdom than by their shape, for their beauty holds within itself a deceptive snare.

(12) *On the twelve principal characteristics through which memory is strengthened*

The twelve principal characteristics through which memory is accustomed to be strengthened are contemplation, study, debate, discussion, conversation, novelty, change, habit, rivalry, fear of criticism, desire for praise, and ambition for excellence.

(13) On the arguments that are mounted against those who say natural memory cannot be helped through artificial means

I shall seize the bow and quiver of the Scriptures and shoot the arrow of fierce censure at those who maintain this vain and foolish opinion. But mark that in three chapters above I have already mentioned impediments to remembering, as well as natural remedies, which none can rationally contradict. However since examples of nature do not suffice to convince the foolish and slow-witted to believe, in order to abolish thoroughly the disbelief of these same ones, I shall introduce from the divine pages arguments and examples that can be visualized and have been performed, beginning from God Himself, who said to Peter: "Before the cock crows, you will deny me three times" (Matt. 26: 34). Wherefore the third crow of the cock was a memorial sign, by which Peter recalled the words of Jesus (Matt. 26: 74–75; cf. Mark 14: 72).[6] Likewise, He said to His disciples: "A man will meet you carrying a pitcher of water"; and at that point He set the pitcher as a memorial sign (Luke 22: 10). And of the woman who offered an alabaster box of ointment, He said that in all the world it will be said: "that this she did in my memory" (Matt. 26: 7–13). And at dinner He instructed his disciples, saying: "Do this in remembrance of me" (Luke 22: 19). And, for instance, Judas throws back the thirty pieces of silver that were given [to him] in a potter's field, which was called "Achaldemach," that is, "the field of blood," just as it continues to be called to this day (Matt. 27: 7–8). And God frequently set forth memorial signs in the Old Testament, when he entered into covenants with the people of Israel. Abraham, for example, at the place where he had arranged to sacrifice his son, invoked the name, "God will see it," in memory.[7] And Jacob, at the point when he saw the upright ladder, set up the stone which he had placed under his head so as to make of it a marker; he poured oil on it from above and, as a sign of memory, called that place "Bethel."[8] And elsewhere, when he made a heap for

a memorial witness for his father-in-law, Laban (Gen. 31: 45–48). Actually, whenever the Israelites entered into an alliance with one another, or whenever there appeared signs or portents, they introduced a new name for the place or thing, as a memorial sign. David, speaking of Christ, says: "And your memory from generation to generation" (Ps. 101: 13). And elsewhere he says: "The just man will be in eternal memory" (Ps. 111: 7). And so that I may briefly subsume the individual cases under their genera, I claim it as established that all books that have been written, or have existed in every region of the earth, all tools, records, inscriptions on wax tablets,[9] epitaphs, all paintings, images, and sculptures; all crosses, of stone, iron, or wood set up at the intersections of two, three, or four roads, and those fixed on monastic houses, placed on top of churches, of houses of charity and bell towers; pillories, forks, gibbets, iron chains, and the swords of justice that are carried before princes for the sake of instilling fear; eye extractions, mutilations, and various tortures of bandits and forgers; all posts that are set up to mark out boundaries; all bell-peals, the clap of wooden tablets in Greek churches, the calls to prayer from the mosques of the Saracens; the blarings of horns and trumpets; all seals; the various dress and tokens of the religious and the dead; alphabets; the insignia of harbors, boats, travelers' inns, taverns, fisheries, nets, messengers, and various entertainers; knights' standards, the insignia of arms, and armed men; Arabic numerals, astrolabes, clocks, and the seal on a papal bull; the marks and points on knucklebones, varieties of colors, memorial knots, supports for the feet, bandages for the fingers, the lead seals in the staves of penitents; the small notches that seneschals, administrators, and stewards make in sticks when they pay out or receive household expenses; the slaps that bishops give to adults during sacramental anointings; the blows given to boys to preserve the events of history in their memories; the nods and signals of lovers; the whispers of thieves; courteous gifts and small presents—all have been devised for the purpose of supporting the weakness of natural memory. Likewise, those who hide treasures leave behind memorial signs in the surroundings, so that thereafter they may find them. Moreover, in the sea are the ways of the Lord, and the paths of God in many waters. Nevertheless, in these waters sailors seek out aid more strenuously in a disaster.

(14) On the memory of Heaven

Holy men, ascending upon the paths of faith, firmly assert that the divine majesty resides on a high throne, near which the cherubim, seraphim, and all the orders of angels stand. One reads also that in that place ineffable glory and life will endure perpetually. It is ineffable because it is inaccessible to the senses of man, except

through belief; even more so, because it is said that it does not climb up to the heart of man. It is not for man to recall ineffable things through the assistance of something artificial, but to believe firmly in the glory of God and in the resurrection of bodies according to the teaching of the Catholic faith, lest by chance one seem to know more than he ought; just as astronomers do, who, although they are mortals and made of earth, claim to know the nature and arrangement of higher bodies. Indeed it is written: "Do not wish to know heaven, but fear it" (Rom. II: 20) Therefore I leave this material of remembering to the Apocalypse and to the testimonies of the holy fathers.

(15) On the memory of Hell

I remember having seen the mountain called Etna by the learned and Vulcan by the common people. While we were sailing near it I saw expelled from it inflamed and glowing sulphurous balls; and it has happened thus in all ages, so it is said. Therefore many reckon that place to be the mouth of Hell. Nevertheless, wherever Hell may be, I believe most firmly that Satan, the prince of demons, with his ranks, is tormented in its abyss.

(16) *On certain heretics who claim Heaven and Hell are merely opinions*

Once upon a time in Athens, certain men studied the philosophical sciences, who, going astray through excessive subtlety, did not believe in the resurrection of bodies. Therefore they piled up the bodies of the dead, and they left them to rot for such a long time as to be transformed into soil, on which they sowed various kinds of grains, and planted vines, which gave back to them fruit at the usual season. Their damnable heresy is imitated today by some who mendaciously assert that all things proceed out of elements, and are one by one turned back into single elements, on the grounds that such things can be demonstratively proved. We, however, who believe without doubting in the catholic faith, must continually bear in mind the invisible joys of Heaven and the eternal pains of Hell.

(17) *That an image can be formed in the memory chamber through which knowledge is given for properly finding things in any written faculty whatsoever*

In fact, any image can be formed in the memorial chamber, through which a particular knowledge can be grasped in such a way according to the genera of individual [things], because the one who knows by natural modes of finding will be seen to have the spirit of every faculty whatsoever. How this can be done, moreover, I shall show clearly to those wishing to understand. Suppose an imaginary quadrangle in the middle of the solar sphere, and direct a measuring line of sufficient length out to all its extremities, and likewise toward

the lower in different directions, until at the juncture facing both ways the line's reversal be such that its position does not invert toward a lower one, but it remains straight. And then let the single items within a class, following upon the most recondite images, be revolved by the spherical device. However, someone will perhaps say this sign is difficult and contains within itself a confused understanding. This I certainly concede, because it was said above that memory is an indescribable gift of nature, wherefore no one can make available to everyone all the mysteries of nature. And if perchance one could, he would not want to, lest envious people should acquire the power to enjoy the same prerogative. But I will demonstrate through suitable and sufficient examples that no one can easily disclose this skill completely. For we see that carpenters enter the woods to have trees cut for the construction of some building. Therefore each one makes [his own] judgment about the cutting of trees according to his own imaginative understanding. And because they frequently differ, each tries through the power of his imagining to strengthen his own judgment. Indeed, there are trees in the woods, and artificial images in the memorial chambers, which the unlearned cannot comprehend by means of words [alone].10

(18) How one may commit to memory the names of provinces, cities, various places, and rivers

One who wishes to commit to memory the names of provinces, cities, rivers, and places should inspect a *mappamundi,* in which are depicted all the regions of the world, all of the islands, deserts, famous cities, seas, and rivers together with their names written underneath. One should also read Solinus, who names and distinguishes the parts of the earth, and describes the twelve wonders of the world.11 Read philosophers and poets who have discussed topics of this sort, and do not omit the Old Testament and the histories of the Romans, in which one will find a great store [of things]. But for the person wanting to know such or similar things, I am making known a device for remembering. One should take therefore an example from Pope Innocent, who recently convened a general council,12 at which through a knowledge of the greater people, he had a memory of the lesser [people], through a certain principle of genus. Beginning from oneself, as if from the broadest genus, and making a descent, one maintains gradually, from whichever person one pleases, by rank and position, with respect to individuals, just as with subordinate groups. To be sure, all emperors, kings, all prelates of the church, secular princes, all magistrates, heads of families, and all men and women, of whatever class, or rank or condition they may be, even including taverners and barbers in all the world, can imitate a similar type of

memorizing.

(19) On an alphabet of images, through which many and various names can be committed to memory

To acquire the memory of many and various names in the memorial chamber, I have established a certain alphabet of images, which can scarcely be written down on these perishable pages. But by that imagining of the alphabet, preceded by the benefit of the natural memory, within thirty days I committed to memory the names of five hundred students. And I also affirm, which seemed more remarkable, that in the sight of all I called each one by his own name, not omitting his family name, his nickname, or his place of origin; thus together and singly they were overcome with admiration at this.

(20) How a house of scholastic learning should be constructed

A house of scholastic learning should be constructed in open and pure air. It should be far from the haunts of women, the racket of the market, the rumble of horses, ships, the barking of dogs, harmful noises, the squeaks and stench of carts. It should have a length and width of equal measure. A number of windows should be arranged in it, so that there be neither more nor less light than nature itself demands. The living space, moreover, should stand in the upper part. The roof should not be less high [than that of the ground floor], nor should it incline too close to the floor, since either way it will upset the memorial power. It should be cleaned of dust and all blemishes; nor should there be in it any images or paintings, except perhaps those which, on account of their imaginative forms and remarkable figures, may enable [the students'] recollections of the scientific subjects with which their minds are occupied. But all the walls of the consistory should be decorated only with a green hue. There should be a single entrance, and the stairs should not be difficult to climb. The master's seat should be located on a raised platform, and it should be high enough that the doctor is able to see the entering students directly. Furthermore, two or three windows should be placed in such a way that the master can sometimes gaze (especially in pleasant seasons) on the outdoor areas, trees, gardens, and orchards, because through the sight of delightful things the memory is strengthened.

(21) *How students should be arranged in the school with respect to seating so that names may be better committed to memory*

The seats of the students should be level to such a degree that no one blocks the doctor's vision. Let greater and famous scholars, however, be placed with respect to seating in more honored places, and let everyone sit near to those from their own province or from neighboring nations, with honor reserved to anyone according to the

positions, excellent qualities, and merits of the individuals. Let the arrangement of seating, however, be in no way varied, nor should anyone presume to occupy the place of another; but let every individual maintain always the place which has been assigned to him. I, in truth, have never had a house constructed thus; I do not believe that anywhere, at any time, has one been arranged in such a way. But perhaps this teaching will succeed in being beneficial to our successors.

(22) *That offensive acts and unexpected events cling more fervently to the memory*

It is generally seen to be beyond doubt that that man who is offended, if he has attained an age of discernment, will not forget the offenses until, if able, he takes vengeance on the offenders. If, however, that same man has received from someone positions and rewards, he immediately falls into lethargy, just as we can see in the case of promotion. We see, to be sure, many who through the assistance of friends have been promoted to the highest offices. But after a bit, these same men, acquiring new friends, have thoroughly committed their promoters to oblivion. The same happens in services that are rendered to boys and poor wretches. If one assigns forty students to some master, but at some point takes away one to himself, it is not the forty he will remember, but the one. If you have been kind to someone a hundred times, and but once overlooked him, he will remember the latter, not the former. If a thousand times you have recommended someone, and once disparaged him, the praise will be forgotten and memory of the insult will persist. The place, then, in which someone slips or is offended is committed to memory, but those places in which one has received services and rewards are easily forgotten. If a doctor has cured many, and has injured one, it is the injured one that will end up on people's tongues. Women, of course, remember those who beat them and afflict them through mistreatment, and forget those others who cherish and honor them. For in fact the above-mentioned things usually happen more frequently, because the senses of men are more inclined to evil than to good.

(23) *On the characteristics and properties by which names can be more easily committed to memory*

First names, family names, places of origin, ugliness of figure, height, shortness, fatness, feebleness, baldness, diversity of ages and complexions, volume of voice, hoarseness, speech, peculiarity in language, speed, slowness, curve of the nose, deformity, mutilation, moles, scars, limping, blindness, crossed eyes, humpback, running eyes, leprosy, variety of clothing, outlandish or ridiculous appellation,

job, rank, excellence of strength or knowledge, wisdom, ignorance, keenness, imprudence, holiness, wickedness, kindness, trustfulness, mildness, passion, cunning, candor, arrogance, humility, courage, fear, magnanimity, pusillanimity, devoutness, lewdness, modesty, playfulness, laughter, lamentation, joking, sadness, wealth, poverty, triumph, hard work, acquisition, loss, generosity, greed, self-control, extravagance, crime against nature, heresy, villainy, pillage, dishonesty, and many things which for the sake of avoiding the tedium of prolixity need not be noted: these are memorial characteristics which we can call pointers and signs, through which we are frequently directed onto the paths of remembering. For when through these same characteristics we draw back toward the memory formal causes, accidents, abilities, and blemishes of the subjects, as if by certain imaginary and material lines, we draw proper names of these same ones toward the port of our memory, which often among the surging currents of thoughts is carried about.

(24) *On acquiring the memory of names of animals, birds, fishes, reptiles, and ships, and on the imitation of very similar teaching to the genera of diverse things*

By the privilege and decree of nature, the lion is the king of all animals, the eagle is seen to be the queen of all birds; the whale is emperor of all fish, the basilisk is prince of every type of reptile and serpent. Therefore through your diligence you will make a regular descent in the repository of the memorial chamber with respect to animals, birds, fishes, and reptiles according to the species of each, giving priority naturally to the worthier ones. And more importantly you must indicate that proper names are assigned (according to their purpose and appropriateness) for leopards, elephants, camels, the choicest horses, all dogs, oxen, buffaloes, and cows used in plowing, bears, deer, wolves, rams which are favored among men, foxes, monkeys, and domestic ravens. The Sardinians, for instance, assign to each one of the horses their own names. But sometimes proper names are assigned to all animals and birds that have an innate sense toward the obedience of human nature; to preserve the memory of them, we can imitate both [their] natural and accidental signs. By way of a successive order you will imitate, of course, the same series of remembering for all mechanical works, craftsmen's tools, minerals, metals, stones, trees, herbs, fruits, liquids, and all types of things. For if I wished to name each one of the genera, I would fall into a labyrinth of prolixity, and this memorial work would have lost praise and the claim of brevity.

II. On the Keys of Memory

(25) On the three keys that open the doors of memory

The first key is in the imagining of nature. The second is in the exercising of the mind. The third is in the working of the soul. In the case of the first, nature works through the means of extremes. In the second, progress is made from the parts to the extremes. In the third, completion of each of the two takes place. The soul works through contemplation, in order that the extremes may be brought back to the first, that those in the middle may be united and may establish an entirety out of the extreme parts until it attains wholeness, in which natural memory is joined through energetic exercise with artificial memory.

(26) Summary

Those things which I have written in this book about natural and artificial memory have proceeded from the sole gift of nature. Therefore what I have freely received, I have taken care to distribute freely to everyone. Nevertheless, some doctrines have remained in the storehouse of [my] soul, which I have not wished to write down in these pages that are perishable.

1. "quia rhetorica compilata per Tullium Ciceronem iudicio studentium est cassata, quia numquam ordinarie legitur, immo tamquam fabula vel ars mechanica latentius transcurritur et docetur." *Rhetorica novissima,* 252.

2. Cf. Plato, *Timaeus* 41d–42b and Meno 82a–86b. Given the small number of Plato's works available in Latin prior to the thirteenth century Boncompagno's immediate source may have been a medieval redaction of this Platonic concept, possibly the commentaries of William of Conches (c. 1085-after 1154). The first part of *Timaeus* (17a–53b), however, was well known throughout the medieval period from the late antique translation and commentary of Calcidius.

3. Both notions are Platonic in origin.

4. The four humors figure also in Book 2 of *Rhetorica novissima* ("De gestibus prolocutorum"), where Boncompagno claims that these different dispositions (sanguine, choleric, phlegmatic, and melancholic) express themselves in different types of voice and gesture.

5. Boncompagno's reference here specifically to black images presumably stems from the etymology of the word *melancholia* (Gr., *melagkholía*, black bile).

6. The story is recounted in all four Gospels; in Matthew, Luke, and John the cock crows for the first time only after Peter has denied Christ either twice (John) or thrice (Matthew, Luke). In Mark, Peter has denied Christ thrice upon the cock's second crowing. An episode of three cock crowings is not in the Gospel texts but may well have been part of a conflated tradition: in any event one should not assume that the error must have originated with Boncompagno.

7. "Jehovah-jireh"; see Genesis 22:14.

8. In Hebrew "Bethel" means "House of God"; see Genesis 28:18–19.

9. Boncompagno writes the Greek word *epicereumata.*

10. Boncompagno's comparison of artificial memory with carpentry is unusual, though likely related to the common characterization in ancient rhetoric of one's subject matters as *silva*, "a forest," and thus of the composing orator as needing skills and judgment like those of a master carpenter.

11. Gaius Iulius Solinus's *Collectanea rerum memorabilium* probably dates from

soon after A.D. 200.

12. The reference is to Pope Innocent III, who convened the Fourth Lateran Council in 1215.

6. Albertus Magnus, *Commentary* on Aristotle, *On Memory and Recollection*

translated by Jan M. Ziolkowski

Albertus Magnus, or Albert the Great (ca. 1193–1280), also known sometimes as Albert of Cologne or as Friar Albert the German, was born at Lauingen in Swabia and died at Cologne. After studying at the University of Padua, he entered the Dominican order in the summer of 1223. He completed his novitiate and early theological studies in Cologne, which is one of the many cities where he taught. The 1240s he spent largely in Paris, where he was the first German Dominican to receive the degree of master in theology.

In his extensive lecturing and writing, Albertus Magnus was especially significant for striving to come to terms with the "new Aristotle" translated from Greek and Arabic and with the Arabic commentaries that arrived with Aristotle. His teaching influenced many students, foremost among them Thomas Aquinas, and a group of these students accompanied him to Cologne in the summer of 1238. In the following year Albertus undertook an enormous paraphrase of Aristotelian philosophy that he had completed by 1270 and that presented the whole of Aristotle's logic, natural philosophy, moral philosophy, and First Philosophy (*Metaphysics* and *Liber de causis).* In dealing with natural science he aimed to incorporate not only parts of Aristotle that had been lost but even topics Aristotle had never covered. Throughout, Albertus sought to clarify Aristotle by rephrasing, supplementing, and reconciling him with Platonism, Epicureanism, and the Pre-Socratics. In the process he brought Christian Aristotelianism to a high point.

In addition to writings on natural science and systematic theology, Albertus also produced prolifically on logic, the moral sciences, metaphysics, and scriptural exegesis, and left many sermons. In view of Albertus's status as a saint, *doctor universalis* of scholastics, and one of the few medieval men to be called "the Great," surprisingly few of his writings have ever been published in English translation. Indeed, many of his works have not yet been found or edited, and the authenticity of many remains under dispute.

Albertus accomplished all his teaching and writing despite heavy administrative duties, first as prior provincial of the Dominican province of Teutonia (1254–57) and then as a bishop (1260–62). During his term as provincial he wrote the collection of nine short works on natural science known as the *Parva naturalia,* among which his

treatise on memory and reminiscence is a companion piece to his treatise *De anima* (*On the Soul*). The treatise gives a very different perspective on memory from that evidenced in his earlier *De bono (On the Good;* 1246–48), a work of systematic theology.

This treatise offers his views on the function and character of memory, within the broader human capacity to think and to know. In it Albertus follows Aristotle, who had elaborated a kind of psychology in which a material form passes through the eyes to create a mental impression (*phantasma),* which the common sense *(sensus communis)* fuses with images from the other senses to create the "intention" *(intentio)* and likeness of the material form. But Albertus sees a gap between the initial act of memory that impresses a sensory image and its recollection, in that the original experience cannot be entirely reconstructed.

According to Albertus, memory is similar to imagination (with which he had dealt in *On the Soul*) in requiring an image—a mental picture. Perpetuating a connection between memory (often memory of names or words) and images, he compares the phenomenon of memory with both a painted portrait and the impression of a signet ring on wax. Both metaphors derived directly from Aristotle, who regarded such impressions as being the essential first step in the acquisition of knowledge. Sense impressions precede all knowledge,all thought,and all activity of the intellect. Memory, like other mental processes such as dreaming, is a power of perception that is characteristic of both body and soul. In contrast to memory, recollection (or "reminiscence") is a kind of reasoning—a search — motivated by thought rather than perception; but recollection too bears traces of the corporeal.

Albertus knew the rules for places and images from the *Rhetorica ad Herennium,* which he would have studied with a commentary. Four running commentaries on the complete text had been composed by the early thirteenth century. Albertus's comments on the vivid image of the ram bear a close resemblance to those in a commentary known as *Etsi cum Tullius,* attributed to William of Champeaux and composed c. 1100. Like other medieval readers, Albertus knew the *Ad Herennium* as "The Second Rhetoric of Cicero" and regarded it as the sequel to the *De inventione* or "The First Rhetoric of Cicero." Under scholasticism rhetoric in general was often presented as having a strong ethical component: for instance, Aristotle's *Rhetoric* was viewed as a book of ethics. Against this backdrop it is understandable why the two treatises ascribed to Cicero were brought within the purview of ethics, especially since the *De inventione—the* First Rhetoric—contains definitions of the four parts of virtue near its conclusion (2.53.159–65). First among the four parts of virtue is wisdom, which itself comprises three parts, and of these memory is foremost. Thus

there were many justifications for Albertus (and Thomas Aquinas after him) to subsume artificial memory under memory, memory under prudence, and prudence under ethics. Consequently the acquisition and application of artificial memory are part and parcel of prudence, which is a virtue.

Especially with regard to artificial memory, Albertus viewed Aristotle's *On Memory and Recollection* through lenses that had been shaped by his study of the *Rhetorica ad Herennium.* In his commentary on Aristotle's tract, Albertus makes much of passages that he takes as referring to a formal mnemonic technique—an artificial memory—along the lines of what is described in pseudo-Cicero. Indeed, he even integrates into his discussion of recollection a distinctive distillation of an image (the ram) used in the *Rhetorica ad Herennium* as an example of the formal "art of memory." For him Aristotle's treatises are, after a fashion, an art of memory comparable to that laid out in the *Rhetorica ad Herennium.* In a circular process, Albertus first uses loose resemblances between Aristotle and pseudo-Cicero to enable an elaboration of Aristotle along the lines of the *Rhetorica ad Herennium* and then makes Aristotle into the philosophical basis for artificial memory in general.

Although a less definite influence on Albertus Magnus than the *Rhetorica ad Herennium,* the mystical approach to rhetoric that is salient in the writings of Boncompagno da Signa and other members of the so-called Bolognese school of *dictamen* (which refers narrowly to letter writing and broadly to prose style) could have held special appeal for him in his thinking on memory. Boncompagno's tripartite definition of memory bears a resemblance to the three parts of prudence discussed in Albertus and other scholastics, and like the scholastics Boncompagno gives hints of connecting this three-part classification with the distinction between natural and artificial memory found in the *Rhetorica ad Herennium.*

One major obscurity in Aristotle's *On Memory and Recollection* is how the technique of midpoints, in which a person recollects by starting a series of associated topics in the middle, is meant to function.This obscurity is maintained and perhaps even heightened in Albertus's account. Another aspect of Albertus's treatise that may seem peculiar to a modern reader is his physiological explanation of how different temperaments have differing capacities for memory and recollection. The best qualities for attainment of memory as an art are dryness and coldness in the posterior cell or ventricle of the brain. Despite—or because of—such strangenesses, the treatise by Albertus Magnus was fundamental in its influence on later medieval thinking and writing on memory.

–Jan M. Ziolkowski

About the Drawing

The image accompanying this selection is adapted from a schematic drawing of the brain in Cambridge University Library MS Gg. 1.1, fol. 490v, a large anthology of diverse material comprising several verse chronicles, an Apocalypse with fifty-five illustrations, a manual of sins, elementary prayers, and psalms, and a version of the encyclopedic romance "Siddrak and Bokkus." Almost all are composed in French, but the book was intended for a household in England, since some materials are in English and Latin. Evidently it was intended as an anthology for teaching reading and basic morals, perhaps made for (or under the guidance of) a household chaplain. This drawing of the brain accompanies a short text entitled "Qualiter caput hominis situatur/ Descripcion del teste de home." We have redrawn the outlines of the original and translated its Latin titles into English. The idea that there are five "cells" in the brain (shown as circles in this drawing) that are active in the construction of human thought comes from Avicenna's commentaries, a refinement on the Galenic tradition that recognized three ventricles or "pouches" in the brain, identified with the common sense and image-making power, the cogitative power, and the memorative power. The estimative power, which is the power to respond to sensory material with an immediate positive or negative reaction, connects to the image-making process in this drawing, in accord with Avicennan doctrine. Notice that both the common sense and the "imagination," understood in the first instance as the power of shaping sense-impressions collected by the "common sense" into coherent mental images, are connected directly to the eyes.The cerebellar *vermis* or "worm" is drawn plainly at the juncture of the cogitative (also called imaginative) power and the remembering power. This structure (not that now called the *vermis* but rather the choroid plexus of the lateral ventricles) was thought to act as a kind of valve, actively opening and closing the passage between the middle and posterior parts of the brain — memoryand cogitation—as thinking procedures required. For further examples of early depictions of the brain, see Edwin Clarke and Kenneth Dewhurst, *An Illustrated History of Brain Function* (Berkeley: University of California Press, 1972).

– *Mary Carruthers*

SOURCE: Translated from Albertus Magnus, *Liber de memoria & reminiscentia, Parva naturalia,* in *Opera omnia,* ed. August Borgnet, vol. 9 (Paris: Vivès, 1890), 97–118.

FURTHER READING: An edition of Albertus's *De bono,* in which a lengthy commentary, somewhat different from this one, on the *Rhetorica ad Herennium* art of memory also appears, is in vol. 18 of the more recent *Opera omnia,* edited by H. Kühle et al. (Aschendorff: Monasterii Westfalorum, 1952). A translation of this *De bono* commentary is in Carruthers, *Book of Memory,* 267–80. Much of Albertus's specific commentary on the mnemotechnical principles and examples given in Book 3 of the *Rhetorica ad Herennium* derives from earlier medieval teachers. A comparison of Albertus's remarks concerning 3.20–21 and those in the early twelfth-century gloss known as *Etsi cum Tullius* is instructive; some pertinent passages from this gloss are translated inWard, *Ciceronian Rhetoric,* 183–87.

A close study of Aristotle's *De memoria et reminiscentia,* together with an English translation and copious notes, can be found in Richard Sorabji, *Aristotle on Memory* (Providence, R.I.: Brown University Press, 1972). Among older scholarship on Aristotle, G. R. T. Ross's edition remains useful (1906; rpt. New York: Arno Press, 1973). The most useful recent essay is Julia Annas, "Aristotle on Memory and the Self," in *Essays on Aristotle's "De Anima",* ed. Martha C. Nussbaum and A. O. Rorty (Oxford: Clarendon Press, 1992), 297–311.

The Arabic commentary tradition on Aristotle's treatise on memory was extensive. One who influenced both Albertus Magnus and Thomas Aquinas was Avicenna (Ibn Sina in Arabic; 980–1037), on whose commentary on Aristotle see Deborah L. Black, "Estimation (*Wahm)* in Avicenna: The Logical and Psychological Dimensions," *Dialogue: Canadian Philosophical Review/Revue canadienne de philosophie* 32 (1993): 219–58. Foremost among the commentators was Averroës (Abu'l Walid ibn Rushd; 1126–98). If Aristotle came to be "the Philosopher," Averroës was sometimes styled simply "the Commentator." In an epitome written in Seville around 1170 he summarized Aristotle's conclusions and arguments, reorganizing, cutting, and supplementing them as he found necessary. An excellent translation is that of Harry Blumberg, *Averroës: Epitome of "Parva naturalia" Translated from the Original Arabic and the Hebrew and Latin Versions,* Corpus commentariorum Averrois in Aristotelem: Versio Anglica 7 (Cambridge, Mass.: Mediaeval Academy of America, 1961). For a brief analysis of its contents, see Coleman, *Ancient and Medieval Memories.*

There is a large body of scholarship that can help provide background for the complexities of Aristotelian psychology. Among the most relevant works are E. Ruth Harvey, *The Inward Wits: Psychological Theory in the Middle Ages and the Renaissance* (London: Warburg Institute, 1975),and Harry AustrynWolfson, "The Internal Senses in Latin, Arabic, and Hebrew Philosophic Texts,"

Harvard Theological Review 28 (1935): 69–133.

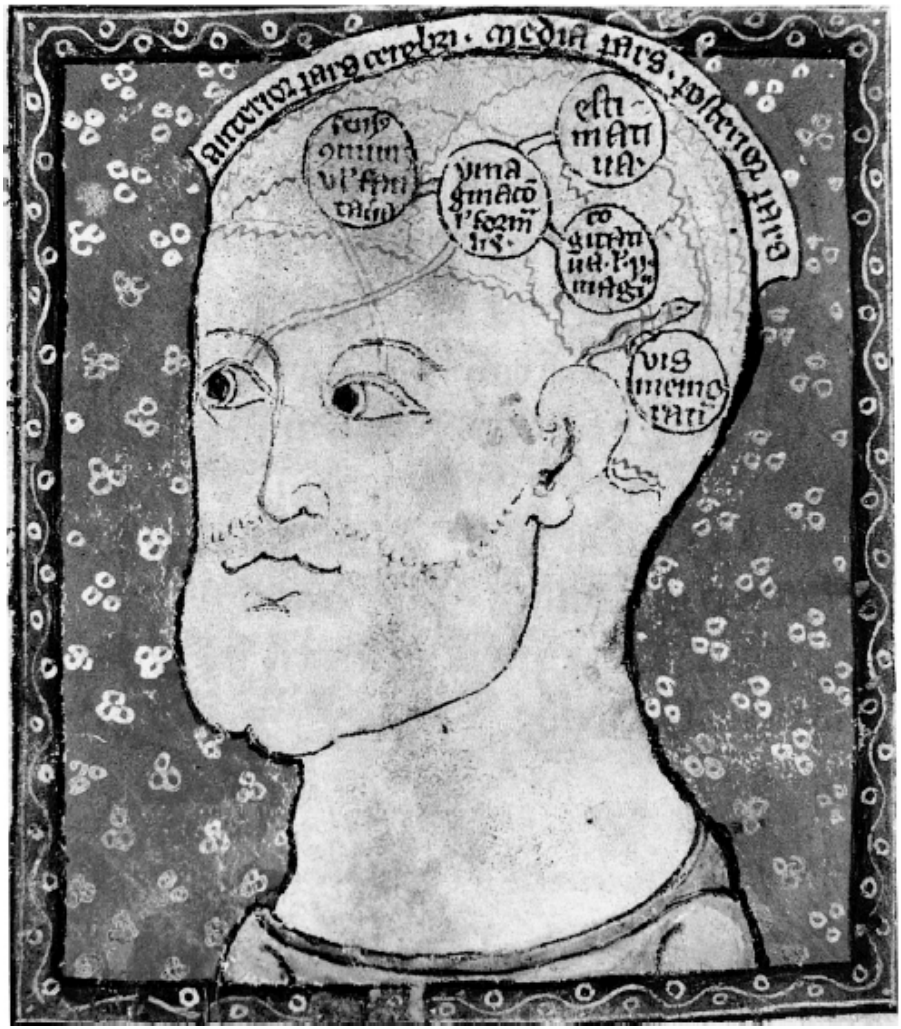


Figure 6.1. Cambridge University Library MS Gg. 1.1, fol. 490v. Photo: Cambridge University Library.

Treatise 1: On Memory

[97] Chapter 1. A digression to state the standpoint of Avicenna and Averroës concerning memory

Of the remaining topics the first that must be considered when we deal with common properties of the soul and the animate body is memory, and though it has been said in what manner objects perceptible by the senses reach the soul, it remains to be considered in what manner the soul, by means of sense organs existing within it, may convey to the perceptions themselves objects that are outside the soul. In the first place, the activity of the senses is complete. Indeed,

the soul does not admit sense organs for any reason, unless it is so that by means of them it may attain matters that can be perceived.

Figure 6.2. Diagram of human brain function. Drawing by Collin McKinney.

Because—as it seems to me—almost all speakers and writers of Latin have gone astray in understanding the capacities that we call memory and recollection (in my opinion, on account of the obscurity of Aristotle's words), for this reason I intend to set down the straightforward view of the Peripatetics and of their Arab interpreters on memory, before pursuing the view of Aristotle.[1]

[98] Therefore, if we recall to memory those things that have been stated concerning the sensory capacities, we will find there are four in which the activity of the memory is made complete. For we do not say

that we remember, except when by means of what we have within us we recall to mind clearly what we saw, heard, and learned previously. When we have learned something, it is necessary and proper for two activities to precede in order that we may remember that which is within the soul. The first of these is to have received that from which memory begins; this is the activity of the common sense. The second is to have preserved within us from the acceptance of the present into the past. In the book *On the Soul,* I demonstrated that it is impossible for receiving well and preserving well to belong to one and the same power of an organ. Avicenna calls the preserving power the "formal" or "imaginative," but in a commentary on this book Averroës calls it the "preserving" power and not the "formal" or "imaginative." According to Aver-roës, the reason for this is that imagination, so called as if it were a process of alteration, is a capacity providing form to the thing of which it is a form, whereas preserving is nothing but retaining forms depicted within it. On this basis he says that we can have preserved within us many things which can be perceived but we cannot imagine many at one time. From these points it is evident, then, that it has necessarily been proven that as far as this part of memory is concerned—namely, that it proceeds and begins from that which we have within us—two capacities are required to be prior.

Similarly, with respect to that part by which a clear return is made to a thing previously seen and heard, it is necessary for one capacity to act before it. In fact, a thing is not clearly recognized by its shape; because if this were true, then we would recognize clearly everything of which we had a shape within us—but this cannot be, since there is much likeness in shapes. But it brings about clear recognition of a thing in the soul when it is known that this is the shape of this thing and not the mental concept of another. Therefore it is necessary that before memory a certain capacity should be actualized which elicits from the shape itself unique mental concepts of those things. In fact, Avicenna, well and properly, called this process "estimation." But Averroës calls it improperly the "cogitative power of brute animals," by which they flee what is baneful and pursue what is advantageous. Since memory contains both of them, it is necessary that shapes and mental concepts be represented in it; for the activity of the memory is fulfilled by the combination of these two.

According to what Averroës says elegantly in his commentary on this book, there are in the head five locations of organs for the faculties of apprehension. One of these is of organs directed to the outward physical senses, which he calls emphatically the corporeal location of the hard cortex, because it receives in the cortex something of the actual presence of the thing. The complement of that location is in the organ of the common sense in the first part of the head, which

is marrowy and moist. The second place is the common sense, which is the first of the spiritual places, as we have said elsewhere; because formally common sense is provided for its own senses. For this reason this place is the complement, as we have said, of the first place. The third, which is itself a complement to the second organ, is the place of the imagination; for the imagination is more spiritual than the common sense, and it receives imagination in place of the common sense with a mental image. The truth about this has been determined in the book *On the Soul.*[2] The fourth place is in the organ of the capacity for distinguishing, which Averroës calls the cogitative power of brute animals, which distinguishes mental concepts from figures of realities. The fifth is in the organ of the power of memory, and that place is the most spiritual of them all, inasmuch as it receives the gist of that which the three capacities of sense, namely, common, imaginative, and distinctive, have distinguished. Through it a return is made, distinctly and separately, [99] to actual things. For that reason the power of memory has as its activity that, in combining distinct concepts with the images of actual things, it returns to actual things distinctly.

Averroës proves that these five places in the head are distinct from their actions. In agreement with Avicenna, he says that the reception of the common sense and the imagination are in the forehead in the front part of the brain, the capacity of cognition or distinguishing in the middle, and preserving and memory in the back. For this reason, forgetfulness is caused when the back part is injured, but cognition, distinguishing, imagination, and reception of sensory perceptions remain. When however the middle is injured, the front and back operate normally whereas the middle grows weak. When the front is injured, the first function is taken away whereas the middle and last remain in accord with their norm. Therefore, from these circumstances it is evident that according to Averroës, the part that preserves does not differ from the memory except according to its essence; because the part that preserves preserves images as well as mental concepts, but the memory, by combining these two, is related through these two to external phenomena. Therefore this is what Averroës and others say is the view of Aristotle.

One matter must be added, I think, before we go on with the view of Aristotle. This matter is that it is said that memory belongs to the first sensory part. Those strongly insist on saying that the organ of memory is in the front part of the head. This contradicts all who speak about the capacities of the soul and who have followed the wisdom of the Peripatetics and of their Arab interpreters. On this account we hold the first part to be the sensory, which is the source and origin of sensitiveness, and which always happens to sense in keeping with its

nature whenever something can be sensed. It is evident that this is not a particular sense. If it were the common sense and the organ of memory, then all things having the common sense would also have memory. This is false, inasmuch as worms and shellfish do not have memory. For this reason it is apparent that it is characteristic of the first sensory part just as it is the first of its activities, just as an activity resulting from a sense in consequence of an action is called a mental image. So therefore memory is said to be of the first sensory part, just like that in which the movements of the first sensory part are made still and from which there comes about intellectual reflection on a matter first received through a sense.

Chapter 2. What is the scope of the book, and what things are truly worth remembering?

Having considered these things, let us present the view of Aristotle. We say that consideration must be given first to memory among the other activities of animate creatures which are common to both the body and soul. Consideration must also be given to the activity of the memory, which is to remember; why it belongs to both body and soul; and for what reasons it is in certain animate creatures. Also to be considered is to which part of the soul this affection, which is the memory, belongs—namely, whether it is a feature of the rational or the sensible soul, since certainly it is not a feature of the vegetable soul. Later consideration must also be given to recollection itself; because although memory and recollection are somehow associated, they are nonetheless not at all the same thing; and this is known through the subjects that are proper to them. Men with good memories and with good recollections are not the same; in many cases and often those who are slow-witted have good memories, whereas those with good recollections are often quickwitted and good learners.

Because it is necessary to learn the powers and activities of the soul from objects, [100] we must first grasp what sorts of things are to be remembered; for many times this approach leads to error because of what escapes notice. Therefore, we say that it is in no way suitable to memorize those matters which are future inasmuch as they are future, but that future matters instead pertain to belief or hope. Matters of belief are those that are simply expected to be true, as for example a solar eclipse, an earthquake, or something of this sort. Matters of hope are those that are expected as bringing benefit to life, as for example the bountifulness of the year, victory in war, or something else of this sort. Objects of fear, which are awaited as future evils, are also contained within matters of hope. That which is hopeful is a form of knowledge, as certain astrologers say that divination of all types is a hopeful knowledge, and especially that which is achieved through the

position and motion of the stars, for the reason that they are based on more certain principles. Such forms of knowledge are necromancy, geomancy, and others of the sort, but they do not have the true name of science, as for example divination does, which is achieved through the stars. Therefore it is evident in this way that memory is not of the future.

For similar reasons memory is not of the present, but rather sensation is of the present; for by sensation we recognize neither what is future nor what has been done in the past, but only the present. The reason for this is that without the presence of matter, what can be perceived by the senses does not act upon the senses. Therefore, since what is to be remembered entails some distinction of time, it is necessary that the memory be of what has been done in the past and not of the present or future; for when the present is at hand in sensation, as when someone sees present a white thing, no one is said to "remember." It is likewise when someone considers through understanding, since someone actually considers and understands. Understanding, inasmuch as it is of this sort, is universal, because it is everywhere, always, and removed from all distinction of time. What is to be remembered entails a distinction of time, which is past time. Therefore when something is here and now, we are said to sense it. When however we consider something through understanding, we are said to know it. But when the soul has recognition or knowledge of something that can be perceived by the senses inactively, that is, without the characteristic action of a particular or universal upon it, then we are said to remember, because then it is necessary to proceed toward the thing previously known from that which it contains within itself. For example, if to a given triangle that is not present one relates the principle that triangles are three angles equal to two right angles, then the person observes through the intellect what he learned or observed in the past. Or if he has knowledge through the senses, then he senses what he heard or saw previously; for it is necessary when someone acts in accord with the memory, that he say in his soul by relating it to the past what he heard previously, perceived by other means, or understood, when the memory is of things intelligible by means of their accidents, as we will show below.[3]

From all the preceding it is evident that memory is neither a sense nor a rational belief, but instead it is a behavior or affection of a certain one of these qualities which belong to a sensible or rational soul, since a limitation of the past arises with regard to what is capable of being sensed or is based on belief. As has been stated, there is not memory of the present in the soul; indeed there is a sense of the present, hope of the future, but memory of what has happened. For this reason every memory comes into being after the time of the

matter with regard to which the soul is concerned.

On this basis is reached the further conclusion that only animals that perceive time have memory, and they remember specifically insofar as they perceive time, as will be evident below. Not all animals perceive time, however. Time is perceived in twofold fashion. One way is in itself, according to a reckoning of its movement. Only rational beings perceive and know time in this manner. In another way time is perceived relationally and not according to itself; then it is perceived according to a fixed distinction of time, according to which a time is located near a temporal event. This is to perceive time indirectly. Thus when something has happened, it is perceived in the past, [101] as when sheep and goats return to the fold, knowing the fold where they lived in the past, and ants assemble in their dwellings, perceiving in advance that rains lie ahead in the future. Yet dumb animals perceive the future less than the past. In fact, they perceive the past through a picture of past events that is in them; but future events they do not perceive in advance except by some present sign, as for instance humidity, heat, or something of this sort. From these observations what is properly memorable is evident.

Chapter 3. To which part of the soul does memory belong?

Now it remains to indicate to which part of the soul memory belongs. Let us say therefore what has been said about mental images previously in the books on the soul. It has been stated there that actualized understanding is not possible in us without a mental image. The same affection is a feature of understanding as of discernment. We call discernment the distinct apprehension of one thing that differentiates it from another, which occurs by apprehension when a universal is applied to particulars, so that distinct apprehension may be achieved through special particulars. Thus in matters to be grasped by the intellect we use no fixed quantity, since they are to be grasped by the intellect; for matters to be grasped by the intellect are abstract and without a fixed quantity. Yet wishing to have apprehension with discernment on the basis of intelligible matters that we have within us, we describe the intelligible matters as being bounded and fixed in quantity and shape, and we do the same when we form beliefs. In fact, it is necessary to reduce all things to set quantity and shapes, seeing that we wish to arrive at a distinct apprehension of a matter on the basis of these matters that we understand or hold as beliefs. Yet even if understanding as understanding does not understand a fixed quantity, nevertheless when it relates matters to be grasped by the intellect to real things, it puts before the eyes a quantity, inasmuch as understanding relates to a thing shaped as if it were before the eyes. Nonetheless the understanding understands quantity abstractly

according to the principle of quantity and not according to the circumstance that it is quantity represented thus or otherwise. Although the nature and principle of the quantities exists within a universal, the understanding understands that they are limitless and not represented by the shape of this or that thing; and yet in relating to real things that which is to be grasped by the intellect, it sets and arranges a finite quantity of this or that shape, which corresponds to the objects received through the senses. It does not understand this quantity in accord with what is understood but only abstractly, not relating it to external objects, except insofar as quantity exists within a universal and has a principle of quantity. Indeed this affection follows so powerfully the potential understanding that comes from the senses that, as Dionysius the Areopagite says, "when someone understands something of divine matters, he accommodates it to the quantity and shape in which it is made apparent through its activity, as for instance we attribute our understanding of things moved to the simple circular shape set in motion by them."

For this reason this may befit potential understanding, because the understanding is affected by nothing which exists in time, as for example natural and mathematical matters which in keeping with their essence exist in time without our being able to make an image of their spatiality or temporality, even though their universal principles belong neither to things that are spatial or temporal. Another principle [102] exists which has been stated partially in the book *On the Soul,* where we stated that "potential understanding is prompted by a mental image that has the appearance of something that exists in space and time." This principle will be stated partially in the book *On the Intellect and the Intelligible.* Indeed, just as potential understanding by nature is set in action by the form that exists in space and time, so too it is innate for the same understanding to coordinate a universal with a spatial and a temporal, seeing that it returns to a particular thing through a universal that it has within itself, although the universal itself is everywhere and always, not having some shape or time. Therefore we hold, on the basis of everything that has been determined, that returning to a thing on the basis of what is in the soul happens neither by making an image nor by understanding unless through the medium of a temporal shape and appearance that have been received previously.

Therefore we see in what part of the soul space, shape, and time are received, and then we will know to which part of the soul the memory belongs. Let us state, therefore, that it is necessary to recognize time by the same property by which size and motion are recognized; for we know that time does not have a principle of quantity except from size and motion. We said in the book *On the Soul* that "mental image is an

affection of the common sense just as of an efficient cause," seeing that the movement and affection are caused by the common sense. For this reason, it is obvious that the first recognition of these matters comes about in the first sentient part, which is the common sense. Memory, however, as we stated just before—even that which is of objects capable of being grasped by the intellect—does not take place without a mental image. Therefore, memory on the basis of those matters which are within the soul reflects upon matters through the accidental properties that can in fact be grasped by understanding. The reason for this is that the reflection itself sometimes begins from something understandable that has been received previously. In and of itself it belongs however to the first sentient part, since the memory is never made complete without that which has been received by the first sentient part, which is particular to a specific space and time. However, we wish to speak only about that which fashions and achieves memory as far as matters to be remembered; for although those sometimes take their beginning from matters that can be grasped by the understanding, nonetheless they reconnect in the mind with something seen before. This reconnection happens in accordance not with their being understandable but rather with their having been perceived by the first sentient part. Indeed those, by their shape and the gap of time from when they were previously received, cause the soul to reflect upon the matter. Memory of matters that can be grasped by the understanding exists through the medium of an accidental property. For that reason in animals other than man memory is present, and not only in men and those possessing belief or wisdom, as some say the Pygmy possesses it. (According to the truth of the matter, the Pygmy is not a human being, as we will demonstrate in the book *On Animals*.) If memory occurred only in connection with the intellective part of the soul, it would certainly not be present in many other animals; and if we should say that understanding means pure understanding actualized, then memory would be present in no mortal being. This topic will be examined with more refinement and definitively in the book *On the Understanding and the Understandable.* Memory of things perceptible by the senses is not present in all sentient creatures, inasmuch as not all things have a sense of time now or then, as we said in the book *On the Soul.* Accordingly, certain imperfect creatures do not have imagination and the common sense except combined with taste and touch; for always when memory acts by remembering, as we also stated previously, it acts with reference to a specific past time, as when it saw or heard this. If there is memory of what it is in and of itself, it is in the first sentient part of what has been received, or inasmuch as it learned previously, if it is of this to which it belongs through an accidental

property of what has thus been understood. To state this generally, the memory acts as though making present again something that it perceived earlier. It is established that it exists earlier and later in time. For that reason memory, acting by forming a concept of the past, acts with a specific time-interval.

[103] From what has been said it is therefore obvious to which part of the soul memory mainly belongs; for it belongs to the sentient part that takes in quantity and time, of which there is also a mental image. Indeed, those things which are received in the mind in this manner are to be remembered by means of it, because within this part is also the mental image of them. In accord with their accidental property whatever matters exist within the medium of a mental image are capable of being remembered, just as matters that have been understood belong to potential understanding. For these matters have been taken into the mind earlier through the medium of mental images and are applied afterward again to mental images when through the medium of matters understood the soul reflects upon an object earlier received through the medium of sense.

Chapter 4. On the resolution of the doubt that originated in the fact that memory was said to be of the past

Someone will have doubts about what we said, namely, that memory is of the past, simply because it is past. Someone will ask the question, why do we remember something absent that is not present, rather than a present affection? After all, the latter has been said to be actually present in the treasure house of shapes, which we above called the preserving part of the soul. Although certainly memory takes in from the appearance that it has within itself and that is present in the soul and arrives by means of it at something it earlier perceived, this is to ask why memory is said to be “of the past” because of the absent thing rather than “of the present” because of the appearance by which it gives rise to reflective thinking which is present within the soul. For it is evident, it is right to understand that something of this appearance from which reflection begins is present in the soul through the medium of the common sense and proper reception; and it is necessary to understand it to be present in that part of the body which contains memory, just as an organ has a capacity that is its fulfillment; for if something of the sort were not understood to inhere in part of the memory, memory would not have the capacity with which to begin to reflect upon the thing it had earlier perceived when remembering. Consider, for example, a picture that, having been received by a sense, is painted on the perceiving soul. Sometimes it is an affection and a particular quality of the same part of the soul, of which we stated above that the memory is a

certain state of being; for when a motion capable of being perceived has been made toward the soul, it designates one individual item upon which reflection takes place by an act of memory. Thus this is like one particular form or another perceptible change of taste or smell, as of a seal ring that leaves on the wax a sign without substance, as has been demonstrated in the book *On the Soul.*

That such an impression may be left by a perceptible thing in parts of the perceiving soul and may remain there is proven by the very arrangements of the received powers, in the accounting of which memory too is counted; and this would not be so, if memory were not understood to be imprinted corporeally. We see in fact that in these people whose constitution is changeable and very reflexive—whether this comes from infirmity, as in the case in certain people suffering from apoplexy, paralysis, and lethargy, or whether it is because of age, which is to say, infancy and last dotage—remembering does not come easily to them. In infants there is an overabundance of the moist element, growing but still only taking root. In the decrepit there is an abundance of the moist element, [104] moistening but not growing, which is the phlegmatic. Because of it they do not retain well those things that have been imprinted by the senses, since especially because of a cold brain abundant moistness dominates in the brain of those who have an abundance of some of these moist qualities. This happens in them, just as the form and motion of a seal may be imagined as making an impression upon water; because then the form of the seal will not be retained, although it may be easily received; for the aforesaid moist quality abounds in certain people because of the cold existing in them. Indeed, the cold induces the moist. It happens in them just as in buildings going to ruin, in which sealing against water cannot be performed because of their decay. All things that have decayed are moist outside and dry inside. However, sometimes owing to the hardness of the person receiving that quality or affection which is from a sense, a mental image is not produced. Therefore it is imprinted with difficulty from the sense-object. For the reasons that have been stated, very young infants in whom the moist age is dominant and very decrepit old people are rendered forgetful—infants because of moisture in flux from the hot into growth, old people on account of external moisture that is moistening but that is in flux into shrinkage, to such a point that their insides remain dry and empty.

It is likewise in other constitutions, in view of the fact that those people with very swift mental powers are not endowed with good memories because the moist receives readily but the hot is highly active. The hot stirs and upsets mental images; and the moist, especially when stirred by continuous heat, does not retain them well. Similarly, those who are very slow in mental power do not receive

easily and therefore images fail in them; for this reason they are not good rememberers. The swift are moist, more than they need for the optimal performance of the memory; but the slow have less moisture than is adequate for the reception of mental imaging. A mental image does not remain in the soul in certain people, as for example in the excessively moist; in others, as for example the dry, it does not happen to be possible to imprint the mental image.

If the contingent circumstance of this—which is form stamped by sense –is near the memory, then the question may be posed rightly whether this affection present in the soul brings memory to completion or that which is capable of being perceived and from which this affection first came into existence in the sense. If indeed this is said to be memorable because it is present in the soul, then the memory will remember nothing at all, inasmuch as we have other means of apprehending matters that are present. These means of apprehending are the common sense, mental images, and other capacities of the sort, in such a way that we would lack memory for none of those matters which are present. But if something that is absent is said to be memorable and has gone into the past, then we will remember these matters of which we have knowledge—and yet we do not know matters in the immediate present. However, this does not seem to hold true, because since memory is one of the passive capacities of the sentient soul, then it cannot become actualized except through an image present in itself, just as sight, imagination, and the remaining passive capacities cannot. Therefore it does not seem to belong to something absent, inasmuch as it is a capacity of apprehending that becomes actualized through what is apprehended. If what is in the memory should be called like a picture and a shape which something perceptible has impressed for itself, then it seems that this is the perception of this same thing, because the first thing on which what is perceptible impresses its form and picture is perception. Therefore, memory will belong to something else, insofar as we demonstrated above that perception is not memory. If indeed it should be granted that it belonged to a present thing of this sort, then the person acting in accord with memory when he remembers this affection as present will observe when it begins from understanding or will sense when it begins from what is perceptible; and each of these will be inappropriate, because then memory would not be something either from perception or from understanding. Therefore memory does not belong to the present, as it is present. Let us pose the question therefore how what is not present can be remembered, since, as we have stated, any passive capacity does not become actualized except through some impression present in itself. If it should be stated that memory can be achieved [105] actually through what is not present,

then the same principle would hold concerning all other passive capacities; and so it would happen also in sensation, such that it would happen for a person to see what was not present and so forth for the other senses.

Therefore, to dispel the doubt that has been introduced, let us say that in such cases it is like a contingent property and an accidental property in opposition to something. Because the memory is like the appearance in a picture, a particular contingent property and an accidental property are to have many ways. This is stated in the following manner, because just as an animal painted on a tablet is indeed a painted animal and an image imitating that of which it is a representation, and in substance this is in fact one and the same, but its essence is not one and the same, inasmuch as it is taken in absolutely in the first instance and is received by comparison to another in the second. For this reason it can be considered as a painted animal and it can be considered as a representational image. Thus too it is appropriate to scrutinize a mental image formed in us. For we stated in the book *On the Soul* that the modes of the soul are twofold, namely, of separating and arranging. Modes of separating are those which derive from the object; and those are ones which happen absolutely in the soul. Modes of arranging are those which are related to objects to which they are applied. So too it is in a mental image: if we take it in to the extent that it reposes absolutely in the soul and is a signal of an object, then it is a mental image present in the soul from which understanding proceeds when it sets in motion potential understanding. If however through the properties of the object the mental image is referred to the object according to which it was received, then the image is called as it were an *imitage*;[4] and in this way it achieves memory. For this reason although a memory image may be present potentially, nevertheless it is not taken in absolutely as itself but as of another thing that is past, and as such it brings memory to completion, because memory is a passive potential; and for that reason memory is of the past and not of the present. Therefore we say that it is characteristic of a mental image to consider certain things through itself or through imagination; and it is also characteristic of it to speculate about the observation of a mental image insofar as it is of something other, and in accordance with these very circumstances we say that it is a given observation or a given mental image. Insofar as it is of something else, then it is said to be an image or a memory, because as an image it completes the action of remembering. Therefore when the motion of a mental image acts upon the soul in accordance with the fact that it is thought about absolutely in and of itself, it thus completes a sense that is interior or exterior to the soul. In this way, when it proceeds in abstract potentialities, then it

emerges from the mental imaging like a particular understanding that is received from a mental image. In accord, however, with the fact that it is a particular image of something else, then the imaging operation regards the thing referred to as an image. For example, we might say that the soul is not considering a barber who is called Socrates son of Dion, insofar as he was a barber only according to himself—or even that it is considering just the image of a barber. But in both ways the soul considers a barber. Hence another affection of this speculative image emerges when the soul considers the image of a barber; and yet another when it considers it absolutely, like the animal painted on the tablet. This indeed takes place in the soul, as an understanding solely through abstraction, and this happens when the operation of a mode of separating, which has been made out of the object into the soul, is completed.

Something else to be considered is whether a mental image is not like a given picture but is a given memory and image; because reflection upon a previous object thus begins from it, as if using it as a mode of arranging with respect to the thing of which it is the form. From this arises the occasion of the doubt introduced earlier; because when such motions of a mental image take place in the soul, we do not know, owing to this same reason of twofold consideration, whether it has occurred because of that which we earlier perceived (and of which this motion is an image) or whether it has occurred because of that which we perceive as a present mental image. We call the motion, as we showed in the second book of *On the Soul,* a form [106] imprinted by a motion on some capacity of the soul. Hence a further reason is given, that we do not know if the activity of the rational soul is memory or is not memory. Sometimes we happen to understand and know our recollecting and remembering, for the reason that we know well that we recollect and remember. This is when, referring to something we heard before, we observe something heard in keeping with what we earlier heard. This comes about when the observer commits it to the memory as the same in substance; and he considers it as a second and other entity, because its being is in an image, as we said already before.

Sometimes observation comes about in the opposite manner from this. This is when we reflect abstractly in the soul, and not referring it to the thing of which it is the image, the form derived by the soul from a thing. These activities are contrary in their conclusions, because one is from the object to the soul whereas the other is from the soul to the object that has been seen or heard outside or has otherwise been received in the past. This is like a concave, hemispherical mirror when a form impressed on it in one part is projected upon another and from the other is again reflected upon the

first. It is similar when two or more other mirrors are set apart; for whatever objects appear in such mirrors, the ancients used to say became like abstractions, and they used to say that these things became just as people who remember are and as people being reminded by something are. This happens, as we stated, when someone considers an image as an image.

The proof of the statements that have been made is that acts of meditation make the memory healthy. To meditate is nothing other than to reflect repeatedly upon the same thing as an image of a past thing and not in itself. Therefore memory begins from that which is in itself like an image, and it does not begin in and of itself.

We have stated accordingly what memory is and what remembering is, and we have shown that memory in and of itself pertains to the making of a mental image, though not according to what a mental image is without qualification but according to what an image is. We have stated that its state of mind belongs to the thing of which it is the mental image, considered in the aforementioned way. We have also stated to which parts of the soul belong those things that are in us; and we have stated that they belong to the first sentient part by which we perceive time.

Treatise 2: On Recollection

[107] Chapter 1. A digression on the opinion of the Peripatetics about recollection

As I am going to deal with recollection, I choose not to follow the pronouncements of more widely known authorities but instead those of the Peripatetics and of their Arab interpreters, just I did in dealing with memory. Let me set down first the tenets of Averroës, Avicenna, Alexander of Aphrodisias, Themistius, and Alfarabi, all of whom agree in saying that recollection is nothing other than the investigation by memory of what has been forgotten. Therefore they are not to be believed who have stated that recollection is part of the intellectual soul in itself. In fact, the earlier mentioned philosophers hand down that three steps are required for recollection, of which the first is the representation of the image as an image; and this comes about only through the memory beginning in and of itself from a mental image, through an accidental property required on the part of intellectual activity, as we said previously. The second is the description and fitting together of a shape in accord with what it ought to be, and this comes about by the capacity that is called imaginative, uniting shapes and fitting them together. For this reason much power of recollection resides in a good imagination or mental image. The third is what the Arabs call the power of discernment, which involves assembling all these steps and attaching characteristics to the object by all possible

means, as by likeness, opposition, place, time, and so forth, so that what has fallen into oblivion may be drawn out according to intention, as we will show below; and for this step alone recollection is suited to rational beings alone.

From these statements it is therefore evident that the activity of recollection is like an activity that has been interrupted and made diverse. It is destroyed or interrupted, because it does not reflect upon a thing unceasingly in the same form, for the reason that [108] it falls into forgetfulness either totally or partly. It is made diverse because it results from many forms of similar things, antecedents, consequents, places, and various other things which are accidental properties of the subject sought through recollection. Because of this circumstance the earlier mentioned philosophers say that memory is worthier than recollection, just as an unceasing and uniform motion is worthier than a motion that is interrupted and multiform. But they make a reference to something marvelous, for they say that Aristotle speaks of a particular old man of such great power in the assembling and arranging of images and of such great strength in the capacity of understanding to differentiate one from another and to assemble one with another according to the property of the actual thing, that he reconstructed in their true forms things that he had heard in the past by hearing. This could not be unless without doubt the object was discovered as a result of the forms themselves. In this way, a person who has never seen an elephant or a picture of one but has only heard of it describes an elephant truly and properly. For that reason too it is not surprising if things forgotten and yet previously known return again to the soul through the union of such images.

Yet you should know that when the three aforesaid things function to achieve recollection, one is impaired by another. It happens thus that whatever is more corporeal always impairs what is more spiritual and hinders it in recollecting. The common sense that has been corrupted impairs mental image-making and not vice versa; and mental image-making impairs memory and not vice versa. Impaired memory impairs the capacity of understanding to differentiate and not vice versa. That is why people sometimes use an image as an image, and it is reflected and ascribed well and distinctly to its subject matter; but even so, because mental image-making or the common sense is impaired in uniting images of those things that surround the object that we are examining, we do not happen to recall those things on which we are intent. Because of this, those who wish to recall well take themselves out of bright public places and go to dark private ones; because in a bright public place images of perceptible things are strewn about and their motions are confused, but in a dark one they are united and set in motion in proper order. This is why Tully, in the

art of memory that he sets forth in his second *Rhetoric,* prescribes that when forming images we seek out dark places containing little light.[5] Because recollection seeks out many images and not one, he prescribes that we take what we want to retain and recollect, that we figure it in many images, and that we assemble the images. For example, if we wish to recall the person who opposes us in a court case, we should imagine some ram in the dark with great horns and great testicles coming against us; for the horns prompt us to recall our opponent and the testicles prompt us to recall the arrangement of those testifying.

Thus we are to understand about recollection, which many Peripatetics term "recalling by heart." In keeping with these statements we ought to construe those of Aristotle, who is the chief among the Peripatetics.

Chapter 2. On recollection according to Aristotle, how it coincides with memory and differs from it, from other capacities and dispositions, and from affections of the soul

Therefore let us state that after what we have said about memory according to Aristotle's way of thinking, it remains to speak now about recollection, which is called by other philosophers by another term, "recalling by heart." As to what we ought to posit and suppose [109] conforms to recollection, the first is whatever things are true according to the principles of argumentation, from which we may conclude those similarities and differences between it and other capacities, dispositions, and affections of the soul.

Therefore we will note that reception into the memory is not all the same thing as ability to recollect. As we have said, memory is an unceasing and uniform motion in respect to a subject matter, whereas ability to recollect is a motion, as it were, interrupted and cut off by forgetfulness; and it is not uniform, but it is caused by many elements surrounding that thing, to which the ability to recollect can properly apply. What is more, the ability to recollect is not in keeping with its action simply the receiving of something. Simple receiving is when someone first learns or experiences in keeping with understanding or comprehension by means of the senses. All those capacities, for the reason that they are passive, are completed by their attributes. Then, when people receive in this way, they do not receive some memory, because such receiving has not happened beforehand. Nor does someone then receive knowledge from some starting point that existed beforehand, but that then for the first time comes into the soul. Understanding and not memory emerges from the mental image, as is easily proven by the statements previously made. When a disposition and an affection have been created already in the past, then memory comes into being; because it thus uses an image as an image from

which understanding does not emerge but rather reflection upon an object previously seen or heard. Therefore memory does not occur when such an affection has not yet been made in the past, and accordingly recollection does not come about either; because recollection does not come about without the activity of the memory, as is apparent from what has been said.

More fully, when the affection of learning has first come about in the last individual part (that is, in the last part that gives individuality to forms, which is the intellect combined with the mental image), then there is knowledge in it, just as in the one that experiences it originally. Yet if it is appropriate to call knowledge of this sort an affection in progress toward a state of mind (since knowledge of this sort is not truly either an affection or a disposition by which understanding is set in motion, as is obvious from statements in the book *On the Soul*), memory however is nothing of the sort; because although memory may exist accidentally through objects that can be understood, as we have shown in the preceding treatise, it is nevertheless of matters known that we have known already beforehand. However, memory in and of itself is not of objects that can be understood, because objects that can be understood in and of themselves have been removed from all specific difference of time. By its own agency it recalls then what it heard and saw earlier and not what it has now experienced but rather what it experienced earlier according to sense or understanding. From this is inferred, as earlier, that if memory is not the reception of knowledge in the present, recollection is not the reception of the present either.

On the basis of the things considered above it has been made more fully obvious that a person recalling does not happen to remember with respect to the present time but rather a person recalling ought to remember what he did or learned at the beginning of past time before this. Indeed, he happens to remember when he receives the knowledge or sense that he had earlier, at an interval of a time fixed in the past. This is the sort of memory of a past event which is known and which has been received by means of a sense, of which we said at some point that memory was the disposition; and then, when the interrupted motion has been repeated, he receives the knowledge that he had before, or the sense perception that he had before. Since the repeated receiving of knowledge or sense is required for acts of recollection, it is proper then that recollection be something of what has been stated or that it pertain to something of them. This is certainly characteristic of memory, as we showed in the first chapter of this treatise. Since the activity is interrupted, it is appropriate that remembering or recollection proceed as an investigation, and subsequently that memory follow after what is sought has been

discovered; for then movement is made directly into what is sought. Therefore recollection is not simply the repeated reception of objects previously received. If such objects were intact in the soul and [110] if they should again be received through the activity of reflection upon topics, that is not recollection but memory, for the reason that it is—like memory—an unceasing and uniform activity. But it is recollection in one sense and yet not in another. In recollection it is appropriate that the same person twice learn and discover the same unknown thing. The first time is when by examining through learning or discovering he first receives knowledge. The second is by memory, when for the second time he discovers the part that has been forgotten through the images of the objects which surround it, as we stated above. Therefore it is proper that recollection differ from the activities that have been stated, which are the receiving of knowledge and memory. In addition, it is proper that recollection hold greater importance than the starting point from which they first learn. All the same, to recollect is a beginning from many matters remembered previously; the simple reception of knowledge is not the beginning of them.

Chapter 3. On the manner and technique of recollecting

Since we wish to relate the manner and technique of recollecting, let us repeat some of the statements that we have made. One of them is, as we said above, that recollection is nothing but the investigation by the memory of what has been forgotten. For this reason it differs from the repeated receiving of knowledge, which does not occur by means of the memory, and it differs from memory itself, for the reason that memory itself is an unceasing activity upon what has first been received. It differs from meditation, which is repeated use of memory. Therefore, since according to the statements of the Peripatetics recollection is of this sort, it is proper that it always take its beginning from something that has existed in us already for a long time and that relates in some sequential order to the topic that is sought, which it cannot consider before the sequencing, unless it is the beginning of a progression by decreasing degrees to that which is to be considered by probability or by necessity. Therefore this sequential order will be either on the part of the person recollecting or of the thing to be recollected. If in fact it is on the part of the person recollecting, then it will be habit, because habit has the greatest strength. This assertion is proven because when we have spoken one earlier item in a group that we habitually list off in sequence, the second comes to mind even without a special effort. If however it is on the part of the thing to be recollected, then this is an order of necessity or probability. If it is an order of necessity, then one arrives at what is sought immediately on

the basis of it. If however it is the order of probability, then in many cases it will be either dialectic or rhetoric; and then the discovery of the thing comes about through recollection on the basis of all those things which are somehow connected or related to the topic.

Having set down these things in this way, let us state according to Aristotle that all acts of recollection in any given person happen in this way. Because this activity, which is the ability to recollect, is naturally suited to come after this, it is a different activity from a memory of what is received; something received earlier in some one of the aforesaid ways is the beginning of the progression to infer what is sought. In fact we recollect something which we have forgotten by itself, but we recall its initiation by means of memory. If therefore between these two is a sequential order which originates in necessity, then it is evident that when someone is set into action by that activity which is the memory of a beginning as of this beginning, then he will also be set into action by this activity which is characteristic of recollection, and he will necessarily discover what is sought. This is an easy means of recollecting, and yet for that reason recollection is not always activated by necessity, inasmuch as the person recalling does not always employ such a sequential order, but rather just as [111] frequently and in many cases he will be moved by a fixed habit. For the aforesaid reason, those things that follow one another in accordance with the topic become consequences in the motions of the soul because of a fixed habit. It happens in us that we remember more readily particular motions which have taken place once than others which have happened in us repeatedly. The cause of this circumstance is twofold. One is, in fact, age, because it finds the soul less preoccupied and therefore a trivial movement may take deep root in it. For this reason alone children recollect for a long time. Another cause is the emotional inclination of the matter that arouses the soul; and this inclination is twofold, namely, violent destruction and violent hate. These emotions enter profoundly into the soul and remain there a long time. For these reasons, as Tully teaches, “we remember for a longer time some things we see only once than others that we have seen and come to know many times.” If however it is this way, a habit will be similarly a result of often arousing emotions, performing a profound movement in the soul, and remaining there a long time.

Therefore when we recollect, we are first stirred then according to some one of the previous old motions impressed upon us. We want those motions, so far as that motion may be aroused and touched in us in accordance with the motion that the one we seek was accustomed to follow. “This motion” we call the form impressed by the motion as well as the motion we received elsewhere. For this reason we concentrate and focus on it, understanding the thing which is

ordained next in line in our search, rather than direct our attention to something else that contains on our part or on the part of the thing no sequential order to that which is sought. We concentrate and focus upon understanding that thing out of all the ones which can be the starting point of a sequential order in that thing. For that reason we begin sometimes from likeness, sometimes from opposition, and sometimes from an association, as required by the order of the topic. Just as we proceed from the cause to what is caused, so also we receive these likes and opposites and these associations sometimes in their entirety and sometimes in part. On account of this, the ability to recollect takes place. It is obvious that every investigation comes about from some starting point. Since recollection is investigation by means of the memory, it is necessary that it begin in the memory from the starting point of some of the aforesaid motions. The motions in some of these are based on identity, as in associations having a logical and necessary sequence. However, in some of them there are likenesses, just as in dialectical and rhetorical similes, in which an informed judgment of like things comes about on the basis of what is similar. In some cases they tend more toward oppositions and in others more toward similarities, as we said earlier. Because of this circumstance, when recollection takes place in such a manner, then all who recollect seek the rest within that sequence whereby recollection has even a small motive-power. For this reason recollection tends toward forgetfulness, after that which is its starting point and the motive-power of which has entered into memory. However, those who do not seek by thus following the sequence of the subject-matter nevertheless recollect when such a matter can be recollected, the motivation for which comes consequently after another movement by the habit of the person recalling or recollecting.

Is it not necessary for someone to object against what we have stated, to say how can this be that we remember and recollect those things which are far from being mutually coordinated? Someone could pay attention, questioning how we “remember” those subjects which are distant but that he should say rather we “recollect” those which are near. It is obvious that the motivation in things which have been coordinated is somehow the same. I say, however, if someone should say that what is consequent and what is true are one and the same, that in such cases he is not scrutinizing or recollecting, for the reason that he does not have a starting point from which he may proceed. We have said already that although in such cases there may be no starting point, there is nevertheless a starting point from which one was accustomed to proceed in recollecting. For this reason this image comes after that one, and this instance of recollection customarily is after that one. This is an adequate starting point for recollection, as

we have stated.

Therefore, when the person making such a recollection wished to recollect, he seeks to acquire such a starting point for his activity. Afterward, the motive power [112] of the thing to be recollected that is sought will be sufficient in keeping with the habit of the person recollecting, although there may not be a starting point with regard to the subject matter. Because recollection proceeds from such starting points, for that reason they are especially ready in recollecting who begin to recollect from the starting point of the sequence. The more fundamentally the matter recalled starts the sequence, the swifter they are in recollecting, for then the things to be recollected are together just as things which are arranged in sequence according to their starting points. For that reason whatever subjects have an arrangement according to their starting points are more recollectible, like doctrines by way of demonstration and proof; but faulty ones that are not arranged are recollectible only with difficulty.

This is the distinction by which recollecting differs from rote learning, since recollection can be set in motion by any of the aforementioned means to that starting point which is already in the memory before what is just sought, on the part of either the subject matter or habitual association. A person learning by rote is not prompted by such things. When he does not investigate and is not prompted by some starting point, then he will not recall or recollect. However, it happens many times that at first a person seeking and investigating something can recollect it in no way. However, in seeking afterward he both can and does discover it; and the reason of this kind is that sometimes other images that have been impressed more strongly come to mind earlier, which block the starting point of the one that he seeks to recall. Afterward, when those have settled down, a return is made to the starting point and recollection occurs. For that reason, the activity of recollection takes place in that which sets in motion many things, and so long as it arrives at a starting point, the matter which is sought follows in succession. To remember or to recollect is an inherent power relating to an image that sets in motion which serves as a starting point. This setting in motion is immanent, when it is what it is just as if the activity occurred within itself or within those by which it has to be activated and to be set in motion, if such things are many, just as has been stated already often. In recollection, it is necessary to receive the starting point as well as that from which the procedure results.

Chapter 4. From which starting point does recollection come forth?

These things which are, as it were, the starting points from which recollection results are manifold, as we stated above. Sometimes it has

to come about from places in which we first saw or heard things that we seek. Sometimes it has to come about from a likeness according to a part and not the whole. The reason is that when recollecting, those who recollect come passing rapidly from one thing to another. It is as when from the memory of milk one recollects the white that is like milk in color. By white one is led to air, for the reason that white and air are in part alike, because white is a clearness that is limited and air a clearness that is unlimited. By air one is led to the moist, for the reason that the natural quality of air is moistness. By the moist one is reminded of spring, which is a warm and moist season. Let us say that it is not the hour for the investigation of memory. In such a process that which is the universal starting point seems to be the starting point and medium for everything, by means of which the investigation of the entire sequence takes place. Unless it is granted that one should arrive at this previously by way of memory, then one or the other of two unsuitable things will ensue: either one recalls nothing at all, since this investigation has no starting point and every investigation begins from some starting point, or one comes to know [113] from elsewhere than from that which is the starting point of the matter or of the sequence. This is unsuitable, when all that which is discovered and known may be discovered and known from another starting point.

As an example of this sort, we may set down our starting points, which are understandable and committed to memory, from which proceeds recalling or recollection, to be from the enumeration A B C D E I L T, out of some or many of which can be had something of what we want to recollect. If indeed one does not remember at the outset of L the matter that is sought, then one will recall it in T, which is adjacent; for it happens according to the hypothesis that a statement which can be recalled in both of these is prompted as it were by the starting point, because L is the next to last, and T is the nearest to it. It happens moreover that the same thing is prompted in A as in the first and in E as in the fifth, for the reason that in recollection progress from one element to another takes place rapidly, as we showed earlier. If indeed it be granted that there is not recollection in some one of the four aforementioned letters, then it is necessary to recall some one of those which are in the sequence of the aforementioned enumeration, because otherwise it would not progress from the starting point. We posited these and not others to be the starting points: these which are in the sequence A D E are I, L, and others similar. If however it be stated that recollection does not occur in any of the succeeding letters, then it is appropriate that it come about in the first, which is A; because otherwise it would not come about from some starting point which cannot be; and if it should begin from A, then it will always take place in that way from the first to the next in

sequence, until it reaches what is sought. Sometimes memory occurs from the same starting point, but sometimes not. The reason is of this sort, that sometimes it is prompted by the starting point itself, and sometimes it is not prompted more by it than by another. An example of this is when someone is prompted by the starting point itself and on another occasion is not prompted more by it than by E or D. The reason is of such a kind, as stated above: namely, that sometimes the activity cannot move forward from it because of interference from the activity of other appearances. Therefore recollection always progresses from some starting point in a succession and in a ranking, whatever that may be.

If therefore recollection is sometimes prompted by a starting point from long ago, that is, one that became habitual long ago, then it is prompted to the matter to be recollected because that matter is more habitual to it and is associated with it by habit. This is the natural sequence, as on the part of the person recollecting. The habit, now weakened, is from long ago, like a second nature. For this reason those topics that we understand many times and that we make into a habit, we recollect more rapidly. In a progression that is naturally continuous on the part of matters to be recollected, their nature is placed after this starting point, namely, the natural one, and the following one in a sequence is placed next to the preceding one, according to the nature of things. Similarly, a thing understood after another on the part of a person who recollects many times has produced and involved a particular nature, because habit is a condition that sets in motion toward a mode of nature.

Therefore, since recollection occurs in these topics that are outside the nature of objects to be recollected owing to the habit of the person recollecting, just as in those which are to be recollected naturally by the very nature of the matters we recollect, recollection takes place more greatly and more rapidly in these matters in which both of these two are present; and those are matters that have been decided by habit. Yet nature is present in them similarly on the part of the arrangement of what is to be recollected. We say that whatever things have been associated by chance are outside nature. A starting point from which recollection may proceed cannot be established in them, unless it is by habit. It happens therefore that a person recollecting is prompted even quite by chance, but in one way in one circumstance and in another in others, as we stated. When the person recollecting is drawn back in such cases by habit and needs to recollect something by name that he earlier heard, then he will obtain a name unlike the one heard earlier, which is like it in some aspect. Because then he is assisted by neither habit nor the natural order, he will then commit an error in recollecting, which is the same as the sequencing and

arrangement of unsuitable things. [114] Therefore recollection comes to pass in this way which has been set forth by us.

Chapter 5. How does every recollection or memory receive past time?

Although every recollection or recalling progresses from some starting point and this takes place with difficulty, as has been considered in the preceding statements, nevertheless this is generally true that it is especially appropriate for every person recollecting to know the past time insofar as it is a measure of what he is recollecting. This takes place in two ways, for the time when is either definite or indefinite. The when is definite as when we say "three years ago." Indefinite is when we recall a matter, but simply as the past and not specifying with a certain time when it was. The soul judges time just as it judges a number, when it judges more, less, or fewer. It is rational also in that it judges time itself as it judges size. Since time somehow has the essence of a number and of a continuum, it is necessary that the soul judge time just as it judges size and number, of which the one is marked off and the other unbroken. The soul understands things that are large and distant in keeping with the distance of the location, not by extending them to that understanding, as Plato stated and as certain people said that what is seen is extended to what is seeable within corporeal rays; but instead it understands in images which have in themselves a simple and spiritual essence. Likewise it understands time, not by being prolonged for a duration of time except in an impression of time, insofar as it is received when in a temporal matter, to which it is linked as a measure; and certainly even when it is not past time, for the reason that it has departed into not being, as we stated in the fourth book of the *Physics*.

Yet the soul still understands similarly as earlier, for the reason that its image, when it is from the past, has not receded from the soul finitely or infinitely. But these activities are in the soul in accordance with analogy and proportion, since just as things are proportioned to a time when which is linked to those things, so too the appearances of things are proportionate to form, whenever it is understood as being linked to forms. In both of these cases there are in the soul similar shapes and motions proportional to those which are in the things themselves. The impressions of forms contain in the soul the matters that have been provided with form, and they are retained in the memory. In the same way, the motions in things are retained even when the mental impressions of the motions have impressions like them in the memory and the soul. Since recollection is questioning and examination performed by means of the memory, it is necessary that recollection take advantage of these insofar as it is commensurate with things. To what degree the soul will be parted from itself, when

it understands [115] things that are greater or lesser, the answer is definitely to no degree. This is because it does not understand by being drawn forth to a thing but rather by means of the impressions received from things which do not happen to be large and small but only correspond to the material objects, just as an intention corresponds to what is intended by it. Therefore it is in no regard parted from itself when it understands things that are larger and when it understands smaller ones. All things that are within it are smaller than those without; and yet those that are within and those that are without correspond. For that reason one is understood by the other.

It is similar concerning the discrepancy of times; the soul remembers and understands this discrepancy without being discrepant from itself. Perhaps some discrepancy and extension forward are received in the soul, as they are received in the images in it which are separated from particular objects. This discrepancy is not of the location or the time by which it may be extended to this or that, but of proportion, as has been stated. This discrepancy is in the soul like the real distance in real objects. These statements have been made against those who say that the soul is stretched out in extent according to the times and sizes of those matters which it understands and recollects.

That the distance of correspondence functions in the soul as the degree of quantity or distance of place functions in material things is demonstrated in this way: If AB is a thing, to it corresponds a "when" producing things that are distant in time, in such a way that A is a thing and B is a "when" that is left near it because they correspond temporally. Therefore, when the power of the soul which has sensation first receives quantities that are discontinuous and continuous, let us say that the impression AB in something endowed with the common sense is BC. Because that which is in something endowed with the common sense motivates further the understanding or the memory, which is accidentally of things that can be understood, let us posit as CD the impressions made of them in the understanding or memory. Therefore these will be capable of corresponding. If an activity begins from external objects and comes to the soul, then according to the external object AB, BC is set in motion to the common sense; and after that it produces DC in the understanding or memory, because memory is accidentally of things that can be understood, as has been determined above. As we stated, AB and CD correspond, and for that reason one arrives by way of CD at AB, when the activity of recollection begins from the soul and arrives at the thing that is sought; for, just as that which is in the common sense corresponds to an object in such a way that it is understood for the thing itself just as it is; likewise, that which is in the memory and from

which recollection begins corresponds to a thing; and for that reason by means of it one apprehends the absent thing completely. Let us posit that KI is another thing with another discrepancy of time, the impression of which in common sense is TI and in the memory it produces ZI. If therefore someone should then question why AB produces CD in the memory rather than ZI, we will state that just as DC corresponds to AB as impression and mental image correspond to the thing of which they are the impression and mental image, so TI is commensurate in the common sense to ZI in memory, for the reason that each of these is the mental impression of that which is KI in an external thing. Therefore the soul, in keeping with these activities of correspondence, is moved at once; inasmuch as there is continuity between the first thing that moves and the final thing that is moved, the motion originates either outside in an external thing or in the soul. Thus is resolved the question that was earlier introduced, when AB which produces CD does not have a correspondence to ZI and for that very reason does not produce itself. If the soul wishes to understand or to use ZI as a means of understanding, in an altogether similar fashion it will understand it in its arrangement as it understands CD in another arrangement, but by way of TI, which is an impression in the common sense, it understands KI, a matter of which that is the impression. The operations which are TI and KI relate in altogether similar fashion mutually, just as DC and BA relate mutually, but in a different arrangement.

From these observations it is obvious that through impressions of things the soul arrives at absent and present things. Therefore, since a movement from the soul toward a thing happens simultaneously, then memory of both the thing and the time comes into action. It is similar with regard to recollection, which never investigates except by way of the memory, as has been stated above. Yet sometimes, when memory acts, one does not think of oneself as remembering something because of what does not relate to past time as past, but because of what it intended only within itself without reference to time. Nothing prevents someone from lying to himself and deceiving himself, so that **[116]** he may seem to himself to be remembering when on the contrary he is not remembering. This certainly happens when someone accepts and ponders those things that have come to pass in him, and he does not accept them as past things but imagines them as simply understood or sensed, not relating them to the past matter as past. It does not happen that someone is simultaneously remembering and acting, because every action exists with regard to the present and none to the past. In contrast, every memory is with regard to the past and none to the present. For that reason, when someone imagines or understands, as if acting in judging or taking delight with regard to

that, he does not receive it as something remembered: according to what was determined above, this is remembering with regard to the past as the past. For this reason, even if the impression produces an effect on the soul, it does not affect it in that it is past, because in that respect it is capable of being sought after or of serving a function, but it affects as a present that is like the past. But if recollection of the thing occurs outside time, then the person who thus recalls that thing does not recollect, properly speaking.

Inasmuch as we said memory and recollection belong to time, this is twofold. Sometimes we remember times according to a fixed measure, as when we say that it is the third day that did this that we remember. Sometimes this does not come about according to a fixed measure; and yet they are remembered, even though past time is not measured against the present according to a fixed measure. In fact, people have become accustomed to say that they remember, and yet they do not know the distance of the past time from the present, and this is when they do not know according to a fixed standard the quantity of time in which the thing was that we recall.

Chapter 6. That memory differs from recollection according to subject

That memories of material things and instances of recollection involving acts and conditions are not the same has been determined in the preceding. Remembering differs from recollecting not only with respect to time which memory has not taken in except through the subject being remembered, but which recollection has comprehended as either a fixed or an indeterminate measure according to its distance in relation to the present. But they also differ in this, that many other animals than man which have a capacity for understanding are able to remember; but, in a word, none but man has a share in recollecting.

The reason for this is that recollecting, since it is an investigation by means of the memory, is like a syllogism that proceeds from a principle. Yet it is not truly a syllogism, in that it proceeds in and of itself from particulars to subjects and not to some understanding caused through principles. Rather it proceeds to the thing that first caused understanding in the soul. It is a sort of syllogism of a thing that someone previously saw or heard or experienced somehow like this according to sense. In this way the person recollecting in himself and in his recollection reasons, and his recollection is a questioning or an analysis, as we stated above. Such an investigation is not without an ordering principle. For that reason it is an attribute of those [117] who have the attribute of deliberating and arranging with antecedent leading to consequent. The method of weighing one against another is by the method the syllogism, which at one time or another is necessary, at one time or another is probable, and at one time or

another employs the authority, as it were, of common practice.

Chapter 7. On those who have good and poor capacities for recollection

On the basis of what we have said (that recollection exists with logical reasoning and deliberation), no one ought to believe that recollection happens only by means of a purely intellectual activity. Since the goal of recollecting is the receiving of the past according to a fixed or unfixed standard, it is necessary that recollection, activity, and affect be corporeal; and the ability to recollect accords with bodily dispositions and with good or bad constitutions.

The corporeal affect by which the disposition of a sensory organ experiences this mental image (which by its activity brings experience to it) is a sign that certain people of a specific temperament have what we call an ability for recollection, and in keeping with the activity of this temperament, that those people cannot recollect who lack understanding and who because of this lacking produce arguments in a disordered way. Our statement causes it to be true, nonetheless, that the corporeal affection of a particular image constitutes its capacity for recollection. We stated that people of a specific temperament have this; and we say that the sign of what we stated is especially among all melancholic men who have this and particularly those, as Aristotle relates in his book *On Problems,* who have hot and smoky melancholy. There are such people who have as a defining attribute melancholy, which is caused by blood and choler being fused together. Among all these people mental images in particular prompt action, because in the dryness of the posterior brain they are impressed most greatly and forcefully, and the heat of smoky melancholy sets them in motion. Such readiness to motion confers upon recollection that which is investigation. The retentive quality of dryness makes present to the mind many things by which recollection is moved.

The cause of a great capacity for recollection is that recollecting is not done by the people themselves, in such a way that it is in their control to stand still or to proceed in the activity of recollection; but the temperament of the congenital or incidental body often compels them to these things. This temperament can be caused by weakness or age. Just as when people who cast a stone do not have any more the ability of themselves to make the stone to cease moving when they wish, so too a person recollecting is propelled by a particular corporeal necessity. In fact, a mental image activates some bodily organ in which the affection takes place that is recollection. They have such an affection not indeed because their recollection is good, but because they cannot stop, even when they wish to do so, the physical process that happens in those in whom an overflowing moistness, either congenital or incidental, is present near the location of the

faculties of the sensory soul; for such moistness when activated by the sensory powers does not easily come to a halt until it arrives at what it is seeking. The mental effort of searching causes exhalation [118] and heat, and in this effort they spread the moistness, which by nature does not stop on its own. But when what is strained for is discovered, then the strain of seeking ceases, the heat and exhalation cease, and little by little the moisture comes to rest. Such a motion of moistness proceeds directly to the object of the straining from the starting point of memory, as has been determined above.

This is the reason why the passions and fears that are the accidental attributes of such dispositions are activated rapidly when they are set in motion by something that is considered evil. These motions as they move about do not again come to a standstill, but they often move about in the same brain, as long as the frightful investigation of what is bad continues. This affection, which is the involuntary course of recollection, is comparable to nouns or verbs in speech and to patterns of rhetorical persuasion, when melancholics or the feeble use such expressions of words or such patterns. When such people begin to use nouns, verbs, and patterns, they speak for a long time and do not rest. That is one symptom of melancholy: to abound in highly persuasive words that are irrelevant. Possibly sometimes such people may become very still outwardly, and it happens that they become as if unwilling without a reason to sing or talk again, or to speak about the names of things, because of the great motion of mental images which occurs in them. Many recollections are found in them.

Those who have anterior parts of the head which are larger near the common sense, so long as they have in them moisture that has been a little compacted, are more capable of recollection than those who are formed in the opposite fashion. Large parts of this sort give evidence of considerably dilated moisture and of a large power. Compression of moisture enables vigorous retention of images, and for this reason such people are very capable of recollection. In their sensory part they have the heaviness of considerable compressed moistness in which there is much sensory movement. These motions produced in them from the starting point will not be able to remain long, but they are very unrestrained and have a loose moistness which holds forms because of compression. These do not become still easily in recollecting, but are greatly agitated. Those who are extremely young, as are infants, and those who are very old are not capable of recollection because of the great agitation which is in them, and they have no capacity for retaining forms. Old people in decline have watery moistness on the outside. Infants who are growing flow, having a moistness that is increasing and excessively fluid because of the proximity of sperm. For this reason they do not retain, unless

mental images are planted deep within such youths because of marveling or great emotion of sorrow or joy. Those who are more fully compressed in their moistness or who have a compressed temperament because of their age (those in whom moistness remained and did not fail, like youths and those at the age of manhood) are capable of recollecting well. The capacity of recollection endures in them to the advanced age that is called dotage, since they have ample moistness but not excessive fluidity.

So we have made our statement about the nature of memory and of remembering, which is the action of the memory. We have also made a statement about the part of the soul in which animate creatures remember. In addition, we have made a statement about recollecting and about the power of recollection—what each is, in what way each of them takes place, and for what reasons each of them happens.

1. I have added the phrase here and once elsewhere "and of their Arab interpreters," since Albertus seems be speaking not strictly of the ancient Peripatetics but rather of a broader category that includes Averroes and Avicenna.

2. The book in question is presumably Albertus's rather than Aristotle's.

3. The central section of this sentence is a direct quotation from Aristotle's *De memoria et reminiscentia.*

4. The *Dictionary of Medieval Latin from British Sources* (Oxford: Oxford University Press, 1975-) cites *imitago* as having originated in Late Latin as an etymological gloss on *imago*, showing its derivation from *imitari* or the like.

5. The relevant passage in the *Rhetorica ad Herennium* (3.19.32) advises that the backgrounds be "neither too bright nor too dim." By emphasizing that the places be ill-lit, Albertus adjusts the passage, whether consciously or not, to what Mary Carruthers has designated an aesthetic of "Gothic gloom"; see Carruthers, *Craft of Thought*, 216–17.

7. Thomas Aquinas, *Commentary* on Aristotle, *On Memory and Recollection*

translated by John Burchill, O.P.

Not long after becoming a Dominican friar in 1244, St.Thomas Aquinas (1224–74) studied for several years, first in Paris (1245–48) and then, under Albertus Magnus, in Cologne (1248–52). Although Thomas had been exposed already to the writings of Aristotle, he had not studied the Stagirite under the guidance of an Aristotelian as learned, able, and enthusiastic as Albertus Magnus. Albertus explicated to Thomas and his other students the whole oeuvre of Aristotle as it was then available in Latin. Probably partly owing to Albertus's influence,Thomas viewed philosophy as a necessary preliminary to theology and regarded Aristotle as not just a philosopher but *"the* Philosopher," preeminent among philosophers.

As a theologian,Thomas would not have lectured on Aristotle, but nonetheless he devoted considerable attention in his vast writings to Aristotle and to the Arabic commentators on Aristotle, particularly Averroës. Thomas Aquinas produced commentaries on works of Aristotle such as *On Interpretation, Posterior Analytics, Physics, On the Soul, On the Heavens, Nicomachean Ethics, Politics,* and *Metaphysics.* In writing these commentaries, Thomas appears to have intended to defend and correct the use of Aristotelian philosophy in theology and to produce an interpretation of Aristotelian philosophy that protected it from the charges of monopsychism that had been leveled against Latin Averroists, the European followers of Averroës.

Within the context of this larger project of commenting on the Aristotelian corpus, Thomas wrote a commentary on Aristotle's *De memoria et reminiscentia (On Memory and Recollection).* This treatise constitutes one part in a group of nine texts that have been known as the *Parva naturalia* since the end of the thirteenth century at the latest, when Giles of Rome (a student of Thomas Aquinas who died in 1316) used the phrase. (At roughly the same time this set of texts were also called the *parvi libri* and the *parvi libri naturales:* the "little books on natural science.") The collective title *Parva naturalia* designates nine of Aristotle's writings on physiological topics that complement his *De anima (On the Soul*), in that they take as their topic "the things common to soul and body." The relationship between the two texts was well understood in the Middle Ages: as we have seen already, Albertus Magnus paraphrased the *Parva naturalia* as a companion piece to his own treatise *On the Soul.* As a young man Thomas had

copied out for his use some of the *Parva naturalia,* probably including *On Memory and Recollection.*

Why would Aristotle's treatise have held interest for Aquinas? Even today it remains one of the major philosophical examinations of memory and recollection. Among its claims to fame are that it distinguishes memory from other types of cognition; it establishes that the object of memory is what is past; it explores the reliance of memory on mental images and the need of the human intellect for such images; it provides an exposition of mnemonic techniques, especially the so-called place system; and it differentiates not only between recollection and remembrance but also between memory and imagination (fantasia). Thomas Aquinas attends to all these issues, demonstrating a close knowledge of Aristotle but also of other later writers on memory such as Cicero.

Beyond the specific philosophical value of *On Memory and Recollection* when it is viewed as a freestanding treatise, it holds even broader importance because of its connection with Aristotle's other writings.Thomas suggested that, according to the Greeks, Aristotle's *On Memory and Recollection* formed part of *De sensu et sensato (On Sense and Sensible Objects).* This relationship would have connected *On Memory and Recollection* even more closely with *On the Soul,* since Thomas probably viewed the former as complementing the latter: examining the act of sense-power and the operation of memory supplemented the treatment of the operation of the soul.

On Memory and Recollection relates urgently to considerations of the soul in a number of ways. In analyzing the memory, Aristotle seeks to determine the part of the soul to which it belongs. Furthermore, in differentiating between memory and recollection, he sets the stage for a distinction between man and all other living creatures and objects. Nature progresses gradually from inanimate objects through plants and animals to perfect animals and finally to man. In Aquinas's view, the twofold subject matter of Aristotle's text reflects the final distinction between perfect animals, including man, all of which possess the capacity of memory, and man, to whom alone belongs the capacity of recollection. Coming to grips with this distinction was vital to Aquinas's whole project of salvaging Aristotelian philosophy for Christian theology and refuting the Averroists' heresy. Since Aristotle closely associated the soul and body, his teachings on the two bore on the further question of immortality. Thomas saw a whole spectrum of forms or components in human nature, with the rational soul being the highest, and he found recollection to be an essential capacity of human beings, closely related to reason.

Although Thomas may have begun his commentary on Aristotle's *On Sense and Sensible Objects* and *On Memory and Recollection*

while in Italy sometime in or after 1268, he completed them immediately after commenting on the treatise *On the Soul* while in Paris. His final stay in Paris (1269–72) was staggeringly prolific. It is almost impossible to imagine how anyone could have had the energy, stamina, concentration, and organizational abilities to produce an extensive set of commentaries on Aristotle while also writing a work as vast and sophisticated as the *Summa theologiae,* but Thomas performed this very feat during a few short years. During his discussion of the virtue of Prudence in the *Summa theologiae* (II-IIae, Q.49.1), Thomas refers to the art of memory of the *Rhetorica ad Herennium.* He formulates a set of four principles for a mnemonic art based on making unusual images, especially for abstract theological ideas. These, he says, should be arranged in orderly sets of *loci,* which one should carefully ponder and meditate on frequently.

Since Thomas spent most of his waking hours in Paris dictating multiple texts to multiple scribes, it would be absurd to suggest that he spent much time hobnobbing with colleagues at the university. And yet it is worth contemplating his Parisian context as we puzzle over the motives and meanings of his commentary on *On Memory and Recollection.* Although the *Parva naturalia* had been studied at Oxford from the early thirteenth century, and although Aquinas had encountered them already in his years in Cologne, they had not been studied for most of the thirteenth century in Paris because of consternation over the errors and heresies that they contained themselves or threatened to foment in both philosophy and theology. But the curtain the authorities had attempted to draw over Aristotle was being lifted in the very decades in which Aquinas worked most feverishly. On 19 March 1255, not two decades before Aquinas completed his project of commentary, the faculty at Paris issued a new course of study that allocated two weeks to the *De memoria et reminiscentia.*

In the 1250s only the twelfth-century translation of the *Parva naturalia* into Latin and the early thirteenth-century translation of the *Compendium* (a reformulation and interpretation of the *Parva naturalia* by Averroës that included *On Memory and Recollection)* were available; but in the 1260s William of Moerbeke (ca. 1215–ca. 1286), who at the instigation of Aquinas translated Aristotelian texts and commentaries among many other Greek writings, published a new translation of the *Parva naturalia.* As the texts of Aristotle became accessible in better translations and as the Averroist interpretations of them circulated more broadly,Thomas may have felt impelled to offer his own Aristotle commentaries as guidance for Parisian masters of arts as they incorporated Aristotle into their teaching.

This translation offers only Aquinas's "lessons" (*lectiones)* on

Aristotle, for reasons of space omitting the translated Latin text of Aristotle from which Aquinas worked.Versions of the Latin Aristotle are published with Aquinas's commentary in both the Marietti and Leonine editions. (The Leonine edition is so called because it was overseen by a commission established by Pope Leo XIII in 1880.) The Leonine edition has the *nova translatio* Thomas would have consulted in writing his commentary, as opposed to the older translation which had been the only one available when he studied with Albertus Magnus.

The typical form of the commentary is for a short passage from Aristotle's text, treated in linear order, to be followed by Aquinas's interpretation. The translation we publish here was initially prepared for Father Burchill's master's degree at St. Stephen's College in Dover, Massachusetts, then serving as the House of Philosophy of the Dominican Province of St. Joseph. We reprint it, lightly revised, with the kind permission of the Prior Provincial and Major Superior of the Dominican Friars of St. Joseph,V. Rev. Norman A. Haddad, O.P.

SOURCE: Thomas Aquinas, *In Aristotelis libros, De sensu et sensato, De memoria et reminiscentia commentarium,* ed. Raimondo M. Spiazzi, 3rd ed. (Turin: Marietti, 1973), 86–115.

FURTHER READING: The standard edition of Aquinas's treatise is *Sentencia libri De sensu et sensato cuius secundus tractatus est De memoria et reminiscencia,* Opera omnia iussu Leonis XIII P.M. edita Sancti Thomae de Aquino, vol. 45.2 (Rome: Commissio Leonina; Paris: Vrin, 1985).The Leonine edition supersedes the Marietti edition.The Burchill translation has also been published as an electronic text file by InteLex Corporation (Pittsboro, N.C., 1992). A translation of Lectio 2 can be found in Thomas Aquinas, *Selected Philosophical Writings,* trans.Timothy McDermott,World's Classics (NewYork: Oxford University Press, 1993), 138–44. Succinct introductions to scholastic doctrines on memory can be found in John Marenbon, *Later Medieval Philosophy (1150–1350): An Introduction* (London: Routledge and Kegan Paul, 1987), 160–69, and Coleman, *Ancient and Medieval Memories.* A general overview of the development of scholastic teaching on the logical Topics can be found in Eleonore Stump, *Dialectic and Its Place in the Development of Medieval Logic* (Ithaca, N.Y.: Cornell University Press, 1989); see also Stump's editions of Boethius's *De topicis differentiis* and *In Ciceronis topica.* The literature on Thomas Aquinas himself is boundless: one excellent study, which makes some suggestions about the Parisian setting of Thomas's *Parva naturalia,* is James A. Weissheipl, *Friar Thomas D'Aquino: His Life, Thought, and Work,* 2nd ed. (Washington, D.C.: Catholic University Press, 1983).

–Jan M. Ziolkowski

Lesson 1

298. As the Philosopher says in the seventh book of *On the Histories of Animals* (8.1; 588b), nature progresses in stages from the inanimate to the animate, so that the genus of inanimate things is found prior to the genus of plants. When the genus of plants is compared to other bodies, it seems to be animate, but compared to the genus of animals, inanimate. Nature similarly proceeds from plants to animals in a certain continuous order; for certain immobile animals, which cling to the earth, appear to differ little from plants. Likewise in the progression from animals to humans, there are found certain animals in which some likeness of reason appears. Although prudence is a virtue proper to mankind (for prudence is correct judgement about what is to be done, as is said in the seventh book of the *Ethics* [7.10; 1152a]), yet some animals are found to have a kind of prudence. The possession of reason is not the cause of this; it is rather that these animals are moved to perform certain activities by a natural instinct working through sense perceptions, as if they were operating by reason. Moreover it is in the nature of prudence that prudent people are directed through those courses of action which are at hand by a consideration not only of the present circumstances but also of past events. For this reason, Cicero, in his *Rhetoric,* proposes as the parts of prudence not only foresight, by which the future is planned, but also understanding, by which the present is comprehended, and memory by which the past is perceived *(De inventione* 2.53). Hence it is necessary that there be also in other animals that demonstrate a sort of prudence or practical wisdom, not only the ability to sense in the present but also a memory of the past. Therefore, the Philosopher, in the beginning of the *Metaphysics* (1.1; 980b), says that in certain animals memory is formed out of the senses, and on this account they are prudent.

299. But as animals are deficient in practical wisdom compared to humans, so also they have a deficient memory. For other animals only remember, but people both remember and recollect. Therefore, Aristotle, going step by step, treats of memory and recollection after the book in which he considered the senses which are common to all animals *(On Sense and Sensible Objects)*. One of these abilities (recollection) is found in man alone; but the other (memory) is found both in men and in perfect animals.

300. This book *(On Memory and Recollection)* is divided into two parts: first Aristotle gives a preface in which he shows what he proposes to do; then he proceeds to treat those things which he has in mind, at the words, “First, therefore, etc.”

Concerning the first subject he says that two things ought to be discussed. The first to be discussed is the faculty of memory and

remembering, which is its activity. Concerning memory and remembering he promises to discuss three points: first, what is memory and what is remembering; then, what is its cause; and finally, to what part of the soul does the experience of remembering belong. For all the operations of the senses are particular experiences insofar as to sense something is to be affected by it.

301. Then, he says that he will discuss recollection. But lest recollection and remembering appear to be the same thing, he adds evidence of their difference on the example of mankind, in whom both are found. For the same people are not good at remembering and at recollecting. Rather, as it often happens, those who are better at remembering are slow at discovery and learning; those, however, who are quick at discovering for themselves and at learning from others are better at recollecting.

302. The reason for this is that the various aptitudes which people have for the works of the soul depend on the different dispositions of the body. Thus we see in physical things that those, like a stone, which receive an impression slowly and with difficulty retain it well; but those which receive it easily, like water, do not retain it well. Now since remembering is nothing other than retaining thoroughly an impression that has been received all at one time, those who take it in slowly retain fully what they have received, and this is what it means to remember correctly. But those who take in impressions without effort quickly lose the greater part of them. Recollection, however, is a kind of rediscovery of something previously taken in but not thoroughly retained. Therefore, those who are good at discovery and at receiving instruction are also good at recollecting.

303. Then, when he says, “First, indeed, etc.,” he explains what he had proposed. First he explains remembering; then recollecting, at the words, “About recollection, what is left to say is, etc.”

Concerning the former he makes three points: he shows what remembering is; then, to which part of the soul it belongs, at the words, “For of the imagination, etc.”; and finally, the cause on account of which it operates, at the words, “However, one might question, etc.”

Now since powers, habits, and operations are specified by their objects, he considers the first subject (that is, memory) in two ways. First he inquires into the object of memory; then he concludes by defining it, at the words, “Memory, therefore, is, etc.”

Concerning the object of memory he discusses two things. First he states his intention; then he investigates what he has proposed to do, where he says, “Neither the future, etc.”

He says, moreover, that to attain knowledge about memory it is necessary first to understand what sorts of things are objects of

memory, because objects come before actions, and actions before abilities, as has been said in the second book of *On the Soul* (2.4; 415a). It is necessary to understand this because error frequently occurs on this point, since some people say that memory is of things which it is not.

304. Then, when he says, "For neither, etc.," he examines what he has proposed to do. In the first place, he says that memory is not of future things. Second, that it is not of things present, at the words, "Nor of the present, etc." Third, that it is of things past, at the words, "Memory is of what has been completed, etc."

He says that remembering is not of future things. Rather, in respect to our cognitive faculties, we have an opinion of future things when, for instance, someone opines that something is going to happen. In respect to our desires, we have hope, since hope expects some future event at some time. Aristotle says, moreover, that there may even be a kind of definite knowledge of future events which would be a science that foretells. Some people call this "divination" because they can know by it what might happen in the future, concerning which there is expectation. But since expectation is of future things that people will be able to obtain, while the future events of which we are speaking are future contingencies, and of these there can be no definite knowledge, it seems that there can be no science which foretells the future.

305. We ought to add that while there can be no science of future contingencies considered in themselves, when these future contingencies are examined in their causes, there can be definite knowledge of them, inasmuch as some of the sciences recognize that certain things have a tendency to given effects. In such a manner natural science considers things capable of growth and decay. In a similar manner astrologers by their science can make predictions about expected future events (for example, about fertility or sterility) because of the positions of the heavenly bodies bearing on such effects.

306. Then, when he says, "Nor of the present, etc.," he shows that memory is not of the present. But he says that the present relates to the senses, by which we know neither the future, nor what is finished (that is, the past), but only the present.

307. Then, when he says, "Memory, however, etc.," he explains that memory is of things past. The proof for this he takes from the common use of language. When some object is present, as when someone sees a white object in the present, no one would say that he remembers the white object. Likewise no one says that he remembers what he is actively considering in his mind when he is in the act of considering and understanding it. But commonly when men see a

white object, they say that they sense it, while actively to think about something is always called knowing. But when someone has habitual knowledge and latent sense-perception without those faculties being actively in operation, he is then said to remember past events; when, for instance, he grasps intellectually that a triangle has three angles equal to two right angles, and maybe with his senses sees a drawing of the figure. With respect to the intellectual operation, he remembers because he has learned from another or because he has thought it out for himself; with respect to the sense perception he remembers because he has heard, or seen, or perceived [it] by some other sense. For in every instance in which the soul remembers, it asserts that it has heard, or sensed, or understood something before.

308. From the preceding exposition it is evident that the Philosopher does not intend to say that memory cannot be of things which themselves exist in the present, as if memory could only be of those things which existed in the past. For men can remember not only those persons who have died, but also living persons; and one can even be said to recollect himself, as Virgil wrote, "Ulysses did not stand for this, nor was the Ithacan in that sore strait forgetful of himself" *(Aeneid* 3.628–29). By this he wishes it to be understood that he remembered himself. So, the intention of the Philosopher is to affirm that memory is of the past in reference to our experience, that is, some objects that previously we either sensed or understood, and it makes no difference whether these things considered in themselves exist in the present or not.

309. Then, when he says, "Memory is, therefore, etc.," he concludes from the foregoing what memory is. Memory is neither sense, because sense is of the present alone, nor opinions, which can pertain to the future. However, a memory must be related to one of these, either in the manner of a habit, for instance if it is something with staying power, or in the manner of an affect, for instance if it is a transient impression. Now this is the way memory relates to sense, or opinion: when some period of time intervenes between the prior experience of the senses or of the intellectual opinion and the subsequent memory of them, then it is possible to have memory of the past experience. For as we have said, a thing which is experienced now cannot be remembered in the "now." It is sensation which is of the present; hope, of course, of the future; and memory of the past. Thus it is necessary that, for everything remembered, there be some time intervening between the memory and the prior experience.

310. From the foregoing analysis he concludes that only animals which perceive time can remember; and they remember in the part of the soul through which they are aware of time. Concerning this he inquires in the following sections.

Lesson 2

311. After the Philosopher has shown what memory is, he now explains to what part of the soul it belongs. Concerning this he does two things. First he sets out what is necessary for what he proposes to do, at the words, "Magnitude and movement, however, etc."

Concerning the former, he introduces what he intends [to do]; then he exemplifies it, where he says, "For the same affect happens, etc."; finally he shows what aspect of this is to be explained elsewhere, at the words, "Therefore, for this reason, etc."

Therefore, he first notes that in the book *On the Soul* he has explained what the imagination is: namely, a movement causing change, made in the soul by sensory activity. In the same book he has also shown that people cannot understand without a phantasm.[1]

312. Then, when he says, "For the same affect happens, etc.," he proves what he just said. It might seem incongruous to someone that a person cannot understand without a phantasm, since the phantasm is the likeness of the physical thing, while understanding is of universals, which are abstracted from particulars. Therefore, to demonstrate this he gives the following proof, saying that, to the extent that the intellect requires a phantasm, the same thing happens to it as happens in drawing geometrical figures, for instance those in which some sort of triangle is drawn—the drawing must have a definite size, although in his proof the geometrician does not restrict himself to a triangle of only that particular size. Likewise a person wishing to understand some object sets before his mental eyes a phantasm of some definite size, insofar as it is a particular image; for instance, wishing to understand "man," the imagination sets up the image of some man six feet in height; but the intellect comprehends the man insofar as he is "man," not insofar as he possesses this particular size.

313. However, because the intellect can understand the nature of quantity, Aristotle notes that if the objects to be understood are by nature quantified (such as linearity, surface, and number) but yet are not definite (that is, limited to their unique dimensions), nevertheless, a person must present to himself an image of a particular size; just as for someone desiring to understand the concept of "line," the image of a two-foot line occurs, but the intellect understands "line" only according to the conceptual nature of "having quantity," and not as something "of two feet."

314. Then, when he says, "For this reason, etc.," he makes clear why this question is set aside, and he says that it is a different question why humans can understand nothing not having properties of extension and temporality, insofar as man can understand nothing without a phantasm. For it is necessary that a phantasm exist with dimensions of extension and temporality, from the very fact that it is a

likeness of a single thing which is “here and now,” and this cannot be comprehended without a phantasm. The reason why people cannot understand without a phantasm can be readily attributed to the nature of how we first infer concepts, which are abstracted from phantasms, according to the doctrine of Aristotle in the third book of *On the Soul* (3.7; 431a). But it is also evident from experience that one who has already acquired rational knowledge through concepts grasped in understanding cannot actually consider what he knows unless he has some phantasm. For this reason also, an injury to the organ of imagination hinders a person not only from understanding something new, but also from considering what he previously understood, as is evident in the insane.

315. However, someone could object here that concepts do not remain in the human intellect in its receptive mode, but only for as long as a person is actually thinking. Then, after a person is no longer actually thinking, the concepts pass away and cease to be in the intellect, in the manner in which light ceases to be in the air when an illuminating body is absent. Thus it is necessary, if the intellect would understand anew, to turn again to its phantasms to acquire concepts.

316. This objection is expressly contrary to the words of Aristotle found in the third book of *On the Soul* (3.4; 429a). He says there that, since the mind in its receiving state creates rational objects through their appearances, then it has the power to understand them actively. The objection is also unreasonable since the thought-forms are actually received in the receptive mind without change according to its own process; and so the receptive mind has conceptual forms even when not actively thinking about them. This is not the same as in the sensitive faculties in which, as a result of the composition of the physical organ, it is one thing to receive an impression, which is to sense it actively; and another to retain it when things are not actually being sensed, as Avicenna objects. [That the receiving intellect has concepts even when not actively thinking] is an effect of the various degrees of existence of concepts, which may be either purely potential, as during discovery or learning; or fully active, as when the mind actively understands; or in a middle way between potential and activity, as exists in a state of habit. The receiving intellect, therefore, requires a phantasm not only that it might acquire concepts, but also that it might inspect them in a particular way through such phantasms. This is what is said in the third book of *On the Soul* (3.4; 429b). Therefore, the intellect comprehends concepts through phantasms.

317. The reason for this mode of understanding is that an activity is suited to a faculty and its essence. Human thinking ability, however, is in the sensitive part of the soul, as is said in the second book of *On the*

Soul (3.3; 427a). Thus its proper operation is to understand concepts through phantasms, just as the proper operation of the intellect of an immaterial substance [such as an angel] is to understand objects directly known in themselves. The cause of this is explained by the metaphysician, to whom it belongs to consider the different degrees of intellect.[2]

318. Then, when he says, "Magnitude and motion, however, etc.," he shows to which part of the soul memory belongs, first in a proposition, then by proofs, where he says, "Hence in others, etc." Finally he concludes what he had proposed, where he says, "Of which part, therefore, etc."

He states first that it is necessary that magnitude and motion be comprehended by the same part of the soul by which time is known. For these three are connected as much in their being able to be divided into parts as in their being able to be infinite and finite, as is proved in the sixth book of the *Physics* (6.1; 231b).

319. Magnitude, however, is known by the senses, for it is one of the common sensibles. In a like manner, change—especially local movement—is understood insofar as the extent of its magnitude is known. But time is comprehended insofar as the "before" and "after" in a change are known. For this reason these three dimensions can be perceived by the senses.

Now a thing is perceived by the senses in two ways. In one way a thing is perceived through a change worked in the senses by a sensible object; and thus appropriate external sense objects as well as those of the common sense are perceived by the actual senses and the common sense. In another way, something is known by a secondary movement which remains after the first motion made in the senses by the sensed object. This movement remains indeed whenever the sensible objects are gone and belongs to the phantasm, as has been considered in the book *On the Soul* (2.5; 4i7a–b). But imagining, insofar as it becomes evident through this secondary stimulation, is an experience of the common sense, for it follows on the whole change wrought in the senses, which begins with the actual sensed objects and ends in the common sense. Consequently, it is clear that these three, namely, magnitude, motion, and time, insofar as they are in a phantasm, are comprehended and discerned by the common sense.

320. Moreover, memory is not only of sense objects (as, for instance, when someone remembers that he has sensed something), but it is also of intellectual objects (as, for instance, when someone remembers that he knew something). A memory does not exist, however, without a phantasm. For sense objects, after they are gone, are not perceived by the senses except in an image; there is also no understanding without a phantasm, as was noted above. For this

reason Aristotle concludes that memory belongs only incidentally to the intellectual part of the soul; it belongs essentially to the first sensitive part, the common sense. Now it has been said above, that a man thinking represents to himself a phantasm of a particular size, even though the intellect itself is thinking about something absent. Also our perception of time relates to memory according to a particular dimension, namely an interval in the past from the present instant. Hence, memory relates essentially to the appearance of phantasms, incidentally to the intellect's ability to judge.

321. It may seem to someone from what has been said here that the imagination and memory are not faculties distinct from the common sense, but are particular affects of it. However, Avicenna reasonably shows that the enabling faculties are different. Since sensitive abilities are activities of physical organs, it is logically necessary that the reception of sensible forms, which belongs to the senses, and their retention, which belongs to the imagination or fantasy, relate to different abilities. As we see in physical things, reception is linked to one origin and retention to another, for humid things are quite receptive, but dry and hard things are more retentive. Likewise it is characteristic of one ability to receive a form, of another to retain the form received by the senses, and of still another to perceive some "intention" not perceived by the senses; though even in other animals an "estimative ability" perceives this, and a memorative one retains it, which functions by remembering a thing not absolutely, but as it was grasped in the past by the senses or the intellect.[3]

322. Thus it happens among the different abilities that one is, as it were, the root and origin of the others, and their very acts presuppose the activity of the first ability. For instance, the nutritive function is, as it were, the root of the functions of growth and reproduction, each of which uses nourishment. Likewise the common sense is the root of the imagination and the memory, which presuppose the activity of the common sense.

323. Then, when he says, "Hence in others, etc.," he demonstrates what he said by two proofs. The first proof is taken from the case of animals possessing memory. Because memory essentially belongs to the first part of the sensitive soul, he says, it is found in other kinds of animals having senses and lacking an intellect, and not uniquely in man, and in certain others having opinion, which can be related to the speculative intellect, and prudence, which relates to the practical intellect. If memory were something intellectual, it would not exist in many other animals, which certainly possess a memory but no intellect.

324. He says, moreover, "perhaps," because some people have wondered whether certain animals besides man possess an intellect,

because certain of their actions resemble works of reason, such as the actions of apes and similar animals.

325. Aristotle presents a second proof where he says, "Since, not etc.," and it is taken from animals not possessing a memory. He says that it is clear that memory belongs essentially to the sensitive part of the soul, because even now when we suppose that man alone among mortal creatures has an intellect, memory is not in all animals; but those alone which sense time have memory. For certain animals perceive nothing unless they are in the presence of sense objects, like certain immobile animals which for this reason have an vague ability to create images, as is said in the second and third book of *On the Soul* (2.3; 414b and 3.11; 434a). For this reason they cannot know "before" and "after," and consequently do not have a memory. For whenever the soul acts by memory, as was said before, it senses at the same time that it previously saw, or heard, or learned this thing. But "before" and "after" relate to time.

326. Then, when he says, "Of which part, therefore, etc.," he concludes what he proposed to do. He says that the part of the soul to which memory belongs is clear from what has been said, because it belongs in that part to which imagination belongs, and because the things which are essential objects of memory are those of which we have phantasms, that is, sense objects, while intellectual matters, which are not perceived by man without his imagination, are incidental objects of memory. For this reason we cannot remember well those things which we regard as rarified and spiritual; those objects that are corporeal and perceived by the senses are better objects of memory. It is necessary, if we wish to facilitate remembering abstract ideas, to bind them to particular images, as Cicero teaches in his *Rhetoric* (see *Ad Herennium* 3.20.33–37). Yet memory is placed by some in the intellectual part of the soul, insofar as memory is understood to include all habitual retention of those matters which belong to its intellectual part.

Lesson 3

327. Now that the Philosopher has shown what memory is, and to which part of the soul it belongs, he shows here the cause of remembering. Concerning this he does two things: first he raises a doubt; then he resolves it, where he says, "Either it is, as it happens, etc."

In respect to the first he investigates three things: first he raises a doubt; then he indicates something which the doubt presupposes, where he says, "For it is clear, since it is necessary, etc.," and finally he brings out arguments pertaining to the question, at the words, "But if such occurrences, etc."

Therefore, he says first, that someone may wonder why in remembering we remember the thing which is not present and do not remember the impression that is present, for in remembering a kind of experience affects the soul in the present, but the things remembered are absent.

328. Then, when he says, “For it is clear, since it is necessary, etc.,” he makes clear the matter that he had presupposed; namely, that a particular impression exists in the soul while we are remembering. First he demonstrates this through its cause; then through proofs, where he says, “For which reason, in those, etc.”

He says first, therefore, that it is obviously necessary to understand some such impression to have been created by the senses in the soul and in the organ of the animate body. For we say that on the soul’s part a memory is a kind of habit and that its impression is like a picture, because the sense object imprints its likeness on the senses and this likeness remains in the imagination, even when the sense object is absent. Therefore, he adds that the change made in the senses by the sensed object impresses something like a figure capable of being sensibly received on the imagination, which remains even in the absence of the sense object, in the same way as those who seal with rings impress a particular figure in wax, which remains even when the seal or ring has been removed.

329. He says, “In the soul and in part of the body,” because the impression, which is an act of the organic body, belongs to the sensitive part of the soul; it does not belong to the soul alone but to the composite of soul and body. Moreover he calls memory a “habit” of this part because memory is in the sensitive part, and we retain “by habit,” as it were, those things which we conserve in the memory, when we are not actually perceiving them.

330. Then, when he says, “For this reason, in those, etc.,” he demonstrates what he proposed through proofs, namely, that in remembering the impression mentioned earlier is present. He says that since such an impression is necessary to memory, it happens that certain people do not have a memory because they are suffering great fluctuation, whether this is because of an afflicted state of the body, as in the infirm or the inebriated, or, because of the soul, as in those aroused to anger or concupiscence. This also happens if one is at an age marked by growth or decline. For through such causes the human body is in a kind of fluid state; and, therefore, it cannot retain an impression that is made from the movement of a sense object, as would happen if any kind of change, particularly a seal, was imprinted on flowing water. The figure would disappear immediately because of the flow.

331. Moreover, in some others the impression mentioned

previously is not received. At times it happens because of cold freezing the humors, as in those who are in great fear; for because of their coldness nothing can be impressed on their souls. Aristotle gives the example of old buildings. The wall, when it is new and before the cement has hardened, can easily be changed, but not after it has hardened. Sometimes it does not happen because of cold, but because of the natural hardness of what should receive the impression. For earthy bodies are hard even if they are hot, but watery bodies are hardened through being frozen. For the reasons given above, those who are very young, like boys, and the old as well, are deficient in memory, because the bodies of children are in the constant change of growth; the old, on the other hand, because of their decline. Therefore, an impression is well retained by neither group.

332. Yet it happens that things which one receives in boyhood are firmly held in the memory because of the vigor of its movement, just as it happens that things about which we wonder are imprinted more in the memory. We wonder especially, however, at the new and unusual: hence a greater wondering about things, as if they were unusual, affects the young who are going about in the world for the first time; for this reason they remember securely. However, because of the condition of their changing bodies, it is their lot to be weak in memory. Aristotle adds, moreover, that similarly, for the reasons given previously, neither those who are especially quick at grasping things, nor those who are too slow are good at remembering. Those who are especially quick are more humid than they ought to be, for it is easy for the humid to receive impressions. But those who are slower are also denser, and therefore, the impression of the phantasm does not remain as readily in the soul. “However, it does not touch the hard,” that is, they do not receive the impression of the phantasm.

333. What has been said can be explained in another way, so that one would read, first, that Aristotle has designated unusually great bodily changes as a cause for lapse of memory, which afterward he demonstrated by the example of the young and old. Then, secondly, he designated a cause from a natural disposition, for the watery humor, which is cold and moist, is plentiful in some, and therefore, the impressions of the phantasms are easily dissipated in them, as old buildings easily collapse; while in others the earthy humor is plentiful, and so they do not receive an impression because of their denseness. Next he proves this through the example of those who are quick and slow [to grasp things].

334. It must also be taken into account that as he has proposed that the impression of the phantasm is made in the soul and in part of the body, he should afterward demonstrate that people respond differently to an affect of this kind because of different dispositions of their

bodies.

335. Then, when he says, “But if such occurrences, etc.,” he disputes the previously raised question. First, having demonstrated what he had supposed, he resumes the matter. He says that if this happens with regard to memory, namely, that there is a particular impression present in it, as in a picture, it must be asked whether a person remembers the affect which is present in himself when remembering, or the sensible thing from which that impression was made.

336. Then, where he says, “If the former, etc.,” he raises an objection to the one solution, saying that if someone should say that a man remembers the affect that is present it would follow that he would remember nothing of the absent objects, which is contrary to what has already been determined.

337. Finally, at the words, “If the latter, etc.,” he raises three objections to the other solution. He gives the first, saying that if someone remembers that thing from which an impression has been elicited, it would seem incongruous that a man would sense what is present, namely, the affect, and simultaneously remember what is absent, which he is unable to sense. For it has been said that memory is linked to the first sensitive part (the common sense), and thus it does not seem that sense is of one thing and memory of another.

338. He gives the second objection where he says, “And if it is like, etc.” He says that if an impression of this kind, which is present to the one remembering, is in us like a particular imprint or picture of the senses themselves, that is, representing the change worked at first by the sense object in the senses, why will the memory of it be of something else, in other words, of the object and not of just the picture or figure? For since the imprint is on the sense, it is plain that it can be perceived. Moreover, it is also evident from experience that he who remembers speculates in his intellect on this impression, and he senses it too through the affective (sensitive) part of the soul [by means of the internal senses]. It seems incongruous, however, that when a thing is present which derives from a perception, it itself should not be perceived, but something else.

339. He offers the third objection at the words, “How then, etc.” He asks how someone could remember what is not present by means of an internal sense. Since the external senses are in conformity with the internal senses, it would follow that there could be the external sensation of a thing which is not present, so that for instance, one would see and hear a thing not present, and this seems irrational.

340. Then, when he says, “Either it is as it happens, etc.,” he solves the problem raised. First he shows the cause of remembering; then he shows what causes something to be well preserved in the memory,

where he says, “Exercises, however, etc.”; finally he gives a summary, at the words, “What indeed, etc.”

In respect of the first subject, he investigates two things: first he removes a doubt; then he makes the solution clear by an example, where he says, “And because of this, sometimes, etc.”

He says, therefore, that it can be explained how what has been said comes about, namely, that someone perceives the impression that is present and remembers the absent object. He presents the example of an animal painted on a wood panel, which is both a painted animal and a copy of a real animal. Although both refer to the same object, nevertheless, they differ in their formal nature. Thus one is a consideration of it as an animal painting, the other as it is the image of a real animal. In a similar manner the phantasm, which is in us, can be taken as it is something in itself, or as it is a phantasm of something else. In itself it is to be regarded as the kind of thought-object on which the intellect speculates, or the imagination, inasmuch as it relates as well to the sensitive part. As it is a phantasm of another thing, which we sensed or understood previously, it is considered as an image leading to something else and the starting point of remembering.

341. Therefore, since the soul remembers through the means of a phantasm, if the soul turns to it in itself, it seems to be present to the soul, either as something intelligible which the intellect looks at in the phantasm, or only as a phantasm which the imaginative faculty perceives. If the soul turns to the phantasm insofar as it is the phantasm of some thing, and looks on it as an image of what we previously sensed or understood, as was said concerning the picture (for example, if someone does not actually view Coriscus but considers a phantasm of him as the image of Coriscus), this now creates another affect from this appraisal of ours, for it now links up to memory.

342. For, just as it happens with the phantasm of some particular man, that sometimes it is considered in itself and sometimes as an image (for example, as the image of Coriscus), so also it happens with intellectual objects. For sometimes the intellect looks at a phantasm as at an animal painting, if it contemplates it in and of itself, and thus it is considered solely as a particular intellectual thing; if, however, the intellect looks at it in as much as it is an image of an object, it will in that way be a starting point for remembering, as it occurs “in this place,” that is, with regard to particular things.

343. Therefore, it is evident that when the soul turns itself toward the phantasm, insofar as it is a particular form retained in the sensitive part, there is in this an activity of the imagination or the fantasy, even when the intellect considers it in the abstract. If, however, the soul turns to it as an image of what we previously heard

or understood, it relates to an activity of remembering. Therefore, because its being a phantasm implies that it signals a particular response *(intentio)* with respect to its form, Avicenna aptly says that memory looks to the response, imagination the form perceived by the senses.

344. Then, when he says, "And because of this, sometimes, etc.," he makes clear what he has said, by certain examples. He says that because we remember at the time when we consider the phantasm (to the extent that it is the image of what we previously sensed and understood), men are therefore positioned in relation to the act of memory in three ways.

345. For sometimes, though there are present in us motions of phantasms that are created from something we sensed and that are left behind in us from the initial motion of the external sense made by a sense object, we do not know whether these motions are in us because we previously sensed this thing. Thus we wonder whether we are remembering or not.

346. Then, it sometimes occurs that a man understands and recollects something because the phantasm of what he has previously heard or seen occurs to him at that time, which is properly remembering. This happens when a man, who is imagining a phantasm, is moved indeed by the present phantasm itself, but considers it in as much as it is the image of the external object which he previously sensed or understood.

347. Finally, the contrary to the first process sometimes happens, so that a man believes that he remembers when he has not remembered, as happened to a certain man named Antipheron, who came from Oreus; and it also happens to those who are deranged. For they think that phantasms occurring to them for the first time are, as it were, of previous events, as if they remembered things which they never saw or heard. This happens when one considers what is not the image of something that happened earlier as if it were its image.

348. Then, when he says, "Exercises, however, etc.," he shows by what things memory is preserved. He says that frequent meditations on those things which we have sensed or understood preserve their memory so that one recollects well the matters that he saw or understood. Meditation is nothing other than considering things over and over as an image of things previously experienced and not only in themselves; this mode of preserving belongs to the discipline of memory. It is clear, too, that by the frequent act of remembering our habitual knowledge of the objects of memory is strengthened, just as any habit is strengthened through repeated acts, for multiplying the cause fortifies the effect.

349. Then, when he says, "What therefore, etc.," he summarizes in

the same way what he said before. He says that it has been noted what memory is and what remembering is: that a memory is a habit, i.e., the particular retention by habit of a phantasm, not indeed in itself (for this pertains to the imaginative faculty), but insofar as the phantasm is an image of something previously perceived. We have shown to which of those parts of the soul that are in us memory belongs, namely, that it pertains to the first sensitive part (the common sense), insofar as we understand time through it.

Lesson 4

350. After the Philosopher has come to an conclusion about memory and remembering, he now investigates recollecting. First he says what he proposes to examine; then he follows through on what he proposed to do, where he says, "For recollection is not, etc."

Thus, first he says that after speaking about remembering, it remains to speak about recollecting, [taking them up] in this order so that whatever truths may already have been accepted by argument may be supposed from the outset as proven, and thus he relieves himself from a prolonged disquisition about those matters which pertain to recollection.

351. Then, when he says, "For recollection is not, etc.," he follows what he proposed to do. Concerning this he makes three arguments. First he shows what recollection is by a comparison to other experiences; then he shows the mode of recollecting, where he says, "However, they have recollection, etc." Finally he shows what kind of an experience recollection is, where he says, "But that is a particular bodily affect, etc."

He makes two points about the first matter. First he shows what recollection is not; then, what it is, at the words, "But as when something would recur, etc."

Concerning the first he writes two things. First he proposes what he intends to do; then he demonstrates what he has proposed to do, at the words, "For at the instant when one first learns, etc."

He says then, first, that recollection is neither a recurrence of a memory, in such a way that recollecting is nothing other than remembering again; nor, again, is recollection the first acquisition of some object of knowledge, such as what is formed by the senses or the intellect.

352. Then, when he says, "for at the instant when one first learns, etc.," he makes clear what he said. He argues two things concerning this: first he shows the difference between the two matters which he had proposed to examine, namely, the recurrence of memory and the acquisition of knowledge; then he shows that recollection is neither the recurrence of memory nor is it learning, at the words,

“Furthermore, it is clear, etc.”

Concerning the first subject he makes two arguments. First he shows that learning is not memory, because a person who is learning something is not remembering; then he shows on the other hand, where he says “Nor does he acquire, etc.,” that remembering is not learning, because the person remembering does not grasp something new.

Then he says, first, that when someone first learns or undergoes a sensory experience, no recollection is recurring at that time, because nothing recurs unless it first existed; but no memory preceded this experience. Therefore, to learn or sense something for the first time is not to have a recurring memory.

353. Then, when he says, “Nor does he acquire, etc.,” he shows that recalling is not initial perception. In regard to this he investigates two matters. First he shows that recalling does not consist in receiving knowledge; then he shows that it does not consist in that which is received initially, at the words, “Further, at the very individual, etc.”

Thus, he says first that the person recollecting does not receive knowledge from the start of the thing remembered. Since a memory is of something completed, as we noted above, there is memory only when knowledge in the manner of a habit or at least as an impression already exists completely. But, when a first impression is formed in the reception of knowledge, it is not yet completed; therefore, a memory of it is not yet present in the person.

354. Then, when he says, “Further, at the very individual, etc.,” he shows that there is no memory during just the first instant in which some knowledge is gained, either in the manner of a habit or in the manner of an impression, for the knowledge is not yet converted into a habit. In this regard we should note what is proved in the sixth book of the *Physics* (6.5; 236a), that something is said to be completed only at the indivisible moment which exists at the end of the temporal interval measuring the change. He says, therefore, that when knowledge once has been received as a whole, which is when it is finally generated, it can be said that in that instant it is present in the subject, that is, the impression and the knowledge are now in the one receiving the knowledge. We are not speaking strictly here when we apply the name “knowledge,” which properly signifies a habit, but we are taking this name as a common term for habit and impression. The reason for what he says is this: it is always true to say that the thing generated exists fully in the final instant of its generation, as in the final instant of the generation of fire, fire “now” exists. Thus, when knowledge exists, nothing prevents a recollecting of those things which we now know, but this is incidental. For we do not remember those things because we have present knowledge of them, for

essentially a memory does not come into being before a time has elapsed, that is, before an interval of time has occurred between previously created knowledge and the memory of it. A person recollects "now" what he previously heard, or saw, or experienced in any other way; but he does not remember "now" what he is experiencing "now." For it is clear that one is said to be experiencing "now," for the first time, in the final instant of the experience. Therefore, there cannot be memory at that time.

355. Then, when he says, "Furthermore, it is clear, etc.," he shows further that recollection is neither the recurrence of a memory nor the acquisition of something new. He says that it has been made clear through the foregoing, that remembering does not happen to a person who is presently recollecting, that is, one does not remember what he is now recollecting, but what he sensed or in any other way experienced in the first place. Thus, recollection is not the occurrence of memory, but it is referred to something which someone previously experienced.

356. Then, when he says, "Further, it is clear, etc.," he shows what recollection is. He says first that recollection is the recovery of something grasped earlier; then he shows that not every such recovery is recollection, at the words, "And so, not, etc."

He says first, therefore, that recollection is not the recurrence of a memory, for we call it a "habit of memory" when something recurs which one knew or sensed by the physical senses or the common sense. Now as remembering is related to some knowledge previously created, so also is recollecting. Recollecting, however, consists in this, that we recover an earlier experience in some way, but not in such a way that the recollection is one of those things which were mentioned (senses, memory, imagination, or rational knowledge); for remembering occurs through recollection, insofar as recollection is a kind of drive toward remembering. Thus a memory follows on recollection, as its termination follows on a movement.

357. However, according to another way of understanding, recollection follows on a memory, for just as the inquiry of reason is the way toward the knowledge of something, and yet proceeds from something known, so also recollection is the way toward the memory of something, and yet proceeds from something already remembered, as will be evident below.

358. Then, when he says, "And so, not, etc.," he shows that not every recurrence of sensory or of rational knowledge is recollection. He says that it is not universally true that recollection comes about whenever some sensory or rational knowledge, which was possessed previously, is renewed again, for in a certain way there is recollection by the one recovering sensory or rational knowledge, and in another

way there is not. That it is not always true he shows by this example: it happens that after losing some knowledge, the same man learns or discovers a second time the same thing which he had known previously, yet this is not recollecting. Therefore, recollecting must differ from these, that is, from learning or discovering a second time. Aristotle also says that something more, a starting point, is involved in recollection than is required for learning. But what that something more is, is made evident by the following.

Lesson 5

359. After the Philosopher has investigated how recollection is related to the other matters pertaining to knowledge, he begins to demonstrate here the procedure of recollecting.

First he shows the process of recollecting; then he shows the difference between memory and recollection, at the words, "Which, therefore, are not the same, etc."

Concerning the first he investigates two matters. First he shows the procedure of recollecting with reference to the matters which we recollect; then with reference to time, for recollection concerns time as does memory, and this he shows at the words, "But it is necessary especially to know, etc."

He investigates two matters concerning the first. First he sets forth the cause of recollecting; then he shows the method by which one proceeds in recollecting, at the words, "Whenever, therefore, we are recollecting, etc."

The cause of recollecting, moreover, is the sequence of the motions which are left in the soul from our first impression of what we first take in.

360. Analyzing this cause first, he says, therefore, that recollections come about because one particular motion is generated to occur in us after another one, and this comes about in two ways. In one way, the second movement necessarily succeeds the first, as our perception that someone is an "animal" necessarily succeeds our perception that he is a "human." It is thus evident that when the soul is moved by the first impulse, it will be moved by the second also. But recollection proceeds in another way when a second motion succeeds the first not by necessity, but by habitual practice. In this way someone becomes accustomed to think, or speak, or act according to the first impulse, and then the second motion succeeds the first, not always, but mostly (that is, in most cases), just as natural effects follow from their causes in most cases, but not always.

361. However, the habitual practice spoken of cannot be firmed up equally well in all people. It happens that some by cogitating once can fix a habit more quickly in themselves than others can, even if the

latter consider a sequence many times. This occurs either on account of their greater attention and more profound knowledge, or because their nature is more receptive and retentive of an impression. For this reason also, it happens that certain things seen a single time are remembered better by us than other things seen many times. The reason is that those things to which we vigorously apply the mind remain better in the memory. But those things which we see or consider superficially and lightly slip quickly from the memory.

362. Then, when he says, "Whenever, therefore, we are recollecting, etc.," he shows how recollection proceeds, supposing the sequence of movements spoken of before.

Concerning this he investigates two matters. First he shows the procedure for recollecting; then he shows whence a person must proceed in recollecting, where he says, "But one must get hold of a starting point."

He investigates two matters concerning the first of these. First he shows the method by which one proceeds in recollecting; then from this he demonstrates how recollecting and learning differ, which he had left undetermined earlier, and this he explains where he says, "Recollecting differs also in this, etc."

Concerning the first he inquires into three things. First he sets out the method of recollecting; then from this he solves a particular problem, where he says, "However nothing is necessary, etc." Finally he makes clear by proofs what he proposed, at the words, "Whence most swiftly."

First, therefore, he concludes from his premisses that as one movement [in the soul] succeeds another, either from necessity or habit, it is necessary, when we recollect, that we be moved by some one of these movements until we come to the point at which we are carried along further by having grasped another movement which by custom follows on the first. This is the movement which we intend to rediscover by recollecting, because recollecting is nothing other than searching for something which has slipped from the memory. Thus when we recollect we are hunting, that is, we seek what follows from something prior which we hold in memory. For as one who inquires by demonstration proceeds from a previously known thing, from which point he tracks down something which is unknown that comes after it, so also the person recollecting proceeds from something prior which is held in the memory to rediscover what has slipped from memory.

363. Moreover, this starting point from which the person recollecting begins his search is sometimes a definitely known time, and sometimes a definitely known thing. With respect to time a person sometimes begins from "now," that is, proceeding from the present

time into a past time, which he seeks to remember. For instance, if he seeks to remember what he did four days ago, he thinks in this manner: today I did this, yesterday that, on the third day another thing; and thus following the succession of his usual activities he is able to work out what he did on the fourth day. Sometimes he begins from some other time, for example, if someone retains in memory what he did eight days ago and has forgotten what he did four days ago, he will proceed by going forward to the seventh day, and so on until he comes to the fourth day; or he will go backward from the eighth day to fifteenth day, or to some other past time.

364. In like manner, one sometimes recollects beginning from some thing which he remembers, from which he proceeds to another in one of three ways. At times one proceeds by reason of likeness, as when someone remembers something about Socrates, and through this, Plato, who is like him in wisdom, occurs to him. At other times by reason of contrast, for example if someone should remember something about Hector, and through this, Achilles occurs to him. Finally, one proceeds at times by reason of any closeness whatever, as when someone recalls "father" and through this "son" occurs to him. The same procedure holds good for any close relationship, whether of society, or of place, or of time. For a recollection is made because movements of these kinds succeed one another.

365. For some of the movements I mentioned are identical, especially of like things, while the movements of others are simultaneous, namely of contrary things, because by the knowledge of one contrary the other is simultaneously known. Sometimes some movements have a part of others, as happens among things closely related. For something is contemplated in each one of several related things which belongs to the others, and thus that overlapping part, which is lacking in the perception, although it be small, follows on the movement of the first thing, so that when the first thing is embraced [in the mind], the second occurs to the mind's eye in consequence.

366. However, it must be further noted that sometimes those who are seeking to find a forgotten movement that follows on another [in a sequence] arrive at the succeeding movement from some earlier movement in the manner just described; and this properly is recollecting, namely, when someone intentionally seeks the memory of some thing. It sometimes happens indeed that even those who are not deliberately seeking to recollect, on account of the fact that they are thus proceeding from an earlier movement to a later movement (as has been described), they come upon the memory of some thing, when the movement of the thing forgotten forms in the soul after something else in the order of movements, and this was outside of what was intended "but according to the majority," that is, through

the many other motions that have been made in the soul of the sort we spoke of, to wit, by similarities, contraries, and closenesses, that movement which follows in sequence is excited. But this is loosely called recollection. It is, however, remembering in an incidental way with a certain resemblance to recollection.

367. Then, when he says, "However, nothing is necessary, etc.," he removes a type of doubt that might arise from his premisses. For a doubt could arise as to why we frequently remember things that are far off, such as things that happened many years before, and we do not remember things that are recent, such as things which occurred a few days ago.

368. But Aristotle says that it is not necessary to apply the mind to this (that is, to be disturbed by doubt), because it is clear that this phenomenon occurs somehow in the same way, as was set out earlier. He resumes his explanation, namely, that it happens sometimes that the soul learns by grasping a consequence which it had forgotten, without recollecting it by a prior inquiry or intention, for one movement follows another by habit. Hence upon the excitation of the first movement, the second follows, even if a person does not intend it. Now as this happens by habit apart from deliberate intention, one will also do this when he wishes to recollect intentionally, for he seeks to elicit the first movement upon which the subsequent movement follows. Now, because it sometimes happens that the movements of things which are far off are stronger because of habit, therefore, we occasionally remember those things more, with or without deliberate inquiry.

369. Then, when he says, "Whence, most swiftly, etc.," he demonstrates with two proofs the method he has described. The first of these he sets out by saying that, because a consequent movement comes from a prior movement on account of habit, either by inquiring or not inquiring, therefore, recollections are formed most quickly and best when someone begins to meditate from the beginning of an entire event, because the movements of the things in the soul are formed in conformity with the order in which the things follow each other. So, for instance, when we seek some line of verse, we begin first at the beginning [of the poem].

370. He gives his second proof, where he says, "Those things are easier to recollect, etc." He says that those things are easier to recollect which are well ordered, such as mathematics and mathematical theorems, for the later ones are concluded from the first, and so on. Those things, however, which are badly ordered are recollected with difficulty.

371. Therefore, to remember or recollect well, we can learn four useful lessons from the foregoing. First one must be careful to reduce

to some order what one wishes to retain; then one must apply the mind profoundly and intently to those things; next one must frequently meditate on them in order; finally one must begin to recollect from a starting point.

Lesson 6

372. After the Philosopher has shown the process of recollecting, he explains two things here which were mentioned earlier. The first is how recollecting differs from relearning; the second is that it is necessary that the person recollecting begin from starting points, at the words, "But it is necessary to get hold of a starting point, etc."

He makes two distinctions about the first matter. First he shows how recollection differs from relearning; then how recollection differs from rediscovery, at the words, "However many times, etc."

Concerning the first it must be pointed out that both a person who recollects and one who relearns recovers knowledge which was lost; but a person who recollects recovers it using the procedure of memory, by referring to something that was previously known. He, however, who relearns recovers it anew, not as something previously known. Now, since we do not attain knowledge of the unknown except from some starting points already known, it is necessary that the starting points from which we proceed in order to know the unknown be of the same type, as is evident from the first book of the *Posterior Analytics* (1.1; 71a.). Therefore it is necessary that a person recollecting should proceed from a remembered starting point in order to recover knowledge using the procedure of memory, which is not the case in relearning.

373. Therefore, Aristotle says that recollection differs from relearning in this: a person recollecting has in some way the capacity to be moved to something which follows sequentially from a starting point retained in memory. For instance, when someone recollects that something was said to him, but has forgotten who said it, he will use what he has in his memory for the purpose of recollecting what he has forgotten. However, when he does not succeed in recovering the lost knowledge through the starting point retained in his memory, but through something else which is proposed to him independently by a teacher, it is neither memory nor recollection, but learning anew.

374. Then, when he says, "However, many times, etc." he shows how recollecting differs from rediscovery. He says that frequently a person cannot recollect right now what he has forgotten, because the movements by which he can arrive at what he seeks to remember do not remain in him. But if he should seek it as though independently, he can make his way to his knowledge of that thing, and many times he finds what he is seeking as if he were learning the knowledge

anew. This happens when the soul, thinking of various matters, is stimulated by several movements, and so, if it happens that it hits on the movement to which the knowledge of the matter is connected, it is said "to discover."

375. In the same manner, though he can "discover" it, he cannot "recollect" it, because recollection comes about when a person retains within himself an aptitude or capability of leading himself to the movements of the things which he seeks. Recollection comes about when he is able to arrive at something that is stimulated by the movement which he lost through forgetfulness; and he does this from within himself, and not from someone teaching (as happens when he relearns), and from movements possessed before, not from new movements (as when he rediscovers, as has been shown).

376. Then, when he says, "But it is necessary to get hold of a starting point, etc.," he shows that it is necessary that a person recollecting begin from a starting point.

Concerning this he investigates two matters. First he shows what he has proposed to do; then he assigns a cause to the lapse that we sometimes suffer in recollecting, at the words, "The cause of one's sometimes recollecting, etc."

He makes two distinctions about the first. He shows first that it is necessary that a person recollecting begin from a starting point; then, from what kind of starting point, where he says, "It seems, however, etc."

He makes three points concerning the first of these matters. First he sets forth what he intends. He says that it is necessary that a person who wishes to recollect take a starting point from which he begins to be moved either for thinking or speaking or for doing something else.

377. Then, where he says, "Because of this, etc.," he demonstrates through an example what he said. Now, because it is necessary that a person recollecting take some starting point from which he begins the process of recollection, people sometimes seem to recollect from places in which are any matters said, or done, or thought. They use that place as a starting point for recollecting, because arrival at that place is a kind of starting point for all those matters which are set in motion in that place. Hence Cicero teaches in his *Rhetoric* (Ad *Herennium* 3.17.30) that in order to remember easily, it is necessary to imagine certain ordered places in which the phantasms of those things which we wish to remember are arranged in a particular order.

378. Then, when he says, "However, the cause is, etc.," he demonstrates his proposition through its cause, saying that the reason why it is necessary for a person recollecting to take a starting point is that human beings, by a certain roving of the mind, easily pass from one thing to another by reason of likeness, or contrariety, or closeness.

For instance, if we think or speak of milk, we easily pass to white on account of the whiteness of milk; and from white to air on account of the clarity of the transparent medium of light which causes whiteness; and from air to moisture, because air is moist; and from moisture we arrive at a recollection of autumn, which we come upon by reason of contrariety, because the season is cold and dry.

379. Then, when he says, "However, it seems, etc.," he shows what kind of starting point the person recollecting ought to take. He says that what is universal seems to be the starting point and the means by which a person can arrive at everything. However, the universal which is spoken of here is not the one which is spoken of in logic (namely, something predicated of many things) but that from which one is in the habit to be moved toward different things. For instance, if someone, from milk, is impelled on to whiteness and to sweetness; and from whiteness to other things, as he said; and then again from sweetness to digestive heat and to fire, and consequently to other thoughts, milk is like a universal for all these movements. Now, it is necessary to have recourse to this starting point if one wishes to recollect about any matters following these, because if one does not first recollect the matters that follow through other starting points further along, at least he will be able to recollect when he comes on that first universal starting point. But if he does not recollect then, he will not be able to recollect from another place.

380. He presents a model for these variations in thought process through different letters: A, B, G, D, E, Z, [I], and T.[4] He lists these letters according to the order of the Greek alphabet. For in recollection the same order is not always followed, but it must be granted that someone thinking or speaking about B might come to A; from A sometimes to E, sometimes to GD, or sometimes to D, or sometimes E; from G, sometimes to T, sometimes to A. Therefore, if someone does not recollect what is under G, he can recollect what is under E, if he can get to E, and from it be moved on to the two letters G and D. But perhaps he did not seek G or D, but sought I or Z; then, he will remember upon coming to G. But because we do not know whether what we are seeking is contained under E or under G, we must have recourse to A which is a kind of "universal" with respect to all. It is always necessary to proceed in such a way, for instance if B were even more universal than A.

381. However, the aforesaid arrangement of letters can be conceived in another way, so that one would come in a straight line from A to G, but across to B, then from G on the one side across to I [and Z] but on the other from G straight to T, from which to D and E. Therefore, Aristotle says that if someone does not remember at E which is last in the order, he goes to T which is prior. If perhaps he

does not remember at T, because what he seeks is not contained under it, he would need to return to G, under which certain other places are contained, such as A and Z; and after that to A, as has been said, under which B is also contained. This can be seen in the linear diagram proposed [previously in this paragraph].

382. Then, when he says, "The cause of a person's sometimes recollecting, etc.," he assigns a cause to the lapse which persons recollecting suffer. First he considers the case of not recollecting at all; and secondly, the case of an incorrect recollection, where he says, "And since, etc." Therefore, he says first that from a given starting point people sometimes recollect a matter and sometimes do not, because it happens that from the same starting point from which a person is moved to different things, he is moved more frequently to one than to another. For instance, if someone were moved along from G to E and to D, he might be moved more times to one than to the other. Whence from this given point, he recalls easily that toward which he is more frequently accustomed to be moved. But if he is not moved through the "old way," that is, by something through which he is more accustomed to be moved, he is moved in a less accustomed way; and, therefore, he does not easily recollect because a habit is, as it were, a kind of nature. For just as things which exist by nature are formed and repaired easily, for things quickly return to their own nature by their natural inclination (as is evident from hot water which quickly returns to cold), so also we easily recollect things which we have considered many times because we are inclined to by habit.

383. Aristotle shows that a habit is like nature in this way: as in nature there is a certain order in which something comes into existence after something else, so when many activities succeed one another in an order they produce a kind of nature. This occurs especially in the activities of animals, in whose motives something is the agent making an impression, and another receiving the impression, as imagination receives the impression of the senses. Therefore, those things which we have seen or heard frequently are more firmly fixed in the imagination in the manner of a kind of nature, just as the multiplication of the impression on the mind of a natural agent produces a form which is characteristic of the thing.

384. Then, when he says, "Since as in those things which are in the realm of nature, etc.," he shows the reason why we sometimes recollect deficiently. He says that, just as in those things which exist according to their nature, something may occur which is outside of that nature, which happens by chance or fortune, as is seen in the parts of animals;[5] so much more does something irregular and unintended occur in those things which exist by customary habit, which although it imitates nature, lacks its stability. Therefore, even

in this matter, that is, in those things which we recollect through habit, one may recollect differently on different occasions, and this happens on account of some impediment, such as when someone is distracted "from this place," that is, from his accustomed course, to some other thing. This is evident in the case of those who speak something by heart, for if their imagination is drawn away to something else, they lose what they ought to say or say it incorrectly. And because of this, when someone needs to recollect some name or some word, he produces another word in a different way from the one he knows.

385. Finally he summarizes the section by saying that recollection occurs in the manner he has investigated.

Lesson 7

386. Now that the Philosopher has shown the process of recollecting from the standpoint of the matters being recollected, he analyzes here the process of recollecting from the standpoint of time.

First he sets out what he intends; then he demonstrates what he has proposed to do, at the words, "There is something, etc."

He says, therefore, first, that in recollecting it is especially necessary to know time, specifically a past occasion, which memory considers, and whose investigation is recollection. However, past time is sometimes known by the person recollecting as being of a particular quantity (as when a person knows that he sensed this thing at some time three days ago) and sometimes indefinitely or indeterminately, as when a person recalls only that he sensed it at some time or other.

387. Then, when he says, "There is something, etc.," he examines what he has proposed to do. First he shows how the soul knows the measure of time; then he shows the principal proposition, namely, that knowing time is necessary to the person recollecting, where he says, "When, therefore, the movement of a thing, etc."

Concerning his first thesis he makes two points. First he shows what he has proposed to do; then he presents a particular question, at the words, "For how it differs, etc."

Then he says first that there is something in the soul by which it judges greater and lesser quantities of time. And it is reasonable that there is something in the soul that makes judgements about time, for it makes judgements about physical magnitudes that the soul comprehends—for instance, "large" in relation to the size of visualized bodies, and "far off" with respect to the interval of distance from one's place. The interval of time, which is measured according to its distance from the present instant "now," is commensurate with this measurement of distance.

388. The soul knows magnitudes of this kind not by extending the

understanding onto them, as if the soul knew magnitudes by touching them with the intellect. (Aristotle appears to say this in response to Plato, as is evident in the first book of *On the Soul* [1.2; 404b]. In the same way, some people say that seeing is caused because a ray from the eye passes through the whole interval to the thing seen, as was mentioned in the book *On Sense and Sensible Objects* [437b–438a]). But it is impossible that magnitudes are known by the soul through contact with the thing perceived, because in such a case the soul could not conceive any but actually existing magnitudes; whereas in fact it conceives magnitudes which do not exist. For nothing stops the soul from conceiving something double the quantity of the size of the heavens. Therefore, the soul does not conceive the magnitude of something by stretching itself out to it, but rather because the particular movement from the sense object as reflected in the soul is proportional to the external magnitude. For there are in the soul types of models and movements which are similar to things, by which it knows those things.

389. Then, when he says, "For how it differs, etc.," he settles a particular question concerning what he has said.

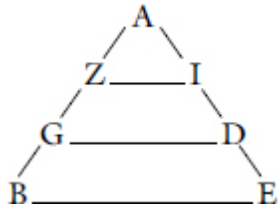
With respect to this he makes three points. First he sets out the question; then he solves it at the words, "Or because, etc." Finally he diagrams the solution through letters, where he says, "As, therefore, etc."

Since the soul knows magnitude by the likeness which it possesses of a magnitude, he investigates first how that differs from the way by which it knows greater and lesser magnitude. For it does not seem to have a different likeness because it does not differ in its appearance.

390. Then, when he says, "Or because, etc.," he solves the question. He says that the soul comprehends lesser things (i.e., a lesser quantity) by means of a like figure or form, just as through a similar form it understands a greater magnitude. For the internal conceptual forms and movements correspond proportionately to external magnitudes, and perhaps the situation with respect to magnitudes or distances or places and times is the same as that for concepts of things. Hence, as in someone comprehending there are different likenesses and movements corresponding appropriately to different concepts of things, as to a horse or a cow, so also there are different images corresponding to different quantities.

391. Then, when he says, "As, therefore, etc.," he demonstrates this kind of varying proportion by means of a diagram through letters. To explain this, it must be noted that, because he said above that in the understanding there are similar figures and movements proportionate to things, here he uses the proof from similarity of form, as geometricians use it. They call figures similar when their sides are

proportional and their angles are equal, as is evident in the sixth book of Euclid:



392. Accordingly, a triangle BAE is drawn, whose base is BE. Then, from a point marked G in side BA, a line, GD, is drawn equidistant from the base to the other side; and likewise a line equidistant from the base is drawn in triangle GAD. Now it has been demonstrated in the first book of Euclid that a straight line falling upon two equidistant lines has equal opposite angles. Angle AGD, therefore, is equal to angle ABE, and angle ADG is equal to angle AEB. A however is common to all. The three angles of triangle AGD, therefore, are equal to the angles of triangle BAE; and the lines subtended by the equal angles are proportional, according to the fourth proposition in the sixth book of Euclid. Therefore, the ratio of AB to AG is the same as the ratio of BE to GD; but on the other hand, the ratio of AB to BE is the same as the ratio of AG to GD; and thus the two triangles are similar figures. Now, by the line from A to B and its segments are understood the movements of the soul by which the soul comprehends. Then, by the lines BE, GD, and ZI, which are the bases of the triangle, are understood varying magnitudes, differing in being greater and lesser.

393. And so he concludes with this exemplary diagram that if the soul is stimulated in movement AB to comprehend magnitude BE, this motion will by itself make magnitude GD known, because the motion from A to G, which is contained in AB, and the magnitude GD, are related by the same ratio as the motion A to B and the magnitude BE.

394. But then the question returns which was raised earlier: by how much more must we comprehend the quantity GD, which is greater, than we comprehend the quantity ZI, which is lesser?

395. That this might be more explicitly seen, he takes movements so different that one of them is not contained in the other. Suppose then a single line, K to M, be divided at point T in such a way that there is the same ratio of KT to TM as of line AG (by which the magnitude GD is understood) to line AB (by which BE is understood). Then simultaneously the soul is stimulated in these movements because as magnitude GD is comprehended by the motion from A to G, so also by the motion from K to T. So as magnitude B to E is comprehended in the motion A to B, so also is it comprehended in the

movement from T to M. If someone wishes to comprehend magnitude ZI through movement AZ, it is necessary that GZ be subtracted from AG, as GB is added to it in order to comprehend magnitude BE. But if we wish to have different motions, it will be necessary to understand something in the place of the two movements K to T and T to M, in which location one places the line T to E, which is the same as G and M. Another two movements are drawn at the same point as before; one is K to L and the other L to M, so that movement KM is divided at point L, in such a way that the ratio of KL to LM is the same as the ratio of AZ to AB. Whence, just as one comprehends quantity BE by moving from L to M, so by moving from K to L he comprehends ZI. It is thus demonstrated.

396. Then, when he says, "Since, therefore, etc.," he demonstrates his initial proposition. First he shows that it is necessary that the person recollecting be cognizant of the occasion [when something happened]; then he shows a twofold mode of comprehending time, at the words, "Which, indeed, is of time, etc."

Therefore, he says first that when the motion of the thing to be remembered and of the past circumstance simultaneously occur in the soul, there is then an act of memory. But if someone should think himself in the condition of remembering, and does not produce in himself a memory in this way (because either the stimulus of the object or the stimulus of the circumstance is lacking), he has not remembered. For nothing prevents there being a misrepresentation in the memory, such as when it seems to someone that he remembers, and yet he does not remember, because the past occasion occurs to him, yet not the thing which he saw but another in its place. Sometimes one remembers and does not think that he remembers. It is hidden from him simply because the occasion does not come back to him, but only the thing, for as has been said above, remembering is to direct one's attention to the phantasm of some thing insofar as it is an image of some thing perceived on a past occasion. Hence, if the movement of the thing is produced without the movement of the occasion (or conversely), a person does not recollect.

397. Then, when he says, "Which, indeed, is etc.," he shows the different ways in which persons recollecting comprehend time. For sometimes someone remembers an occasion, but not with respect to a definite unit (for example, not that he did something the day before yesterday, but that he did it at some time). On the other hand, sometimes someone remembers with respect to the dimension of past time, but not with respect to a definite unit. For people are accustomed to say that they remember something as past, but they do not know when it was, because they do not know the interval of time, that is, its measure. This happens because of a weak impression in the

rememberer, as is the case with those things which are seen from far off and are comprehended indistinctly.

Lesson 8

398. After he explains the process of recollecting, the Philosopher explains now the difference between memory and recollection.

He suggests three differences. The first is with respect to one's aptitude for both procedures, for it has been said above that the same people are not good at remembering and at recollecting. The second difference is with respect to time, since the process of recollecting something, insofar as it is the way to a memory, temporally precedes remembering it, as is evident from what was said before. The third difference is with respect to the subject in which each can be found, because many other animals besides man have memories, as was said earlier, but no animal known to us except man recollects (Aristotle says this because there was a doubt among some people whether any animal besides man was rational).

399. The reason why recollecting belongs to man alone is that recollection resembles a kind of reasoning. Hence, just as in a syllogism one arrives at a conclusion from some starting points, so in recollecting one reasons by a certain procedure that he has seen, or heard, or perceived something in some way before, arriving at this conclusion from a certain starting point. Recollection is a kind of inquiry, because the person recollecting does not proceed by chance from one thing to another, but he proceeds with the intention of coming upon the memory of some thing. Moreover, this process of a person seeking to come upon something else is found only in those who have a natural power of deliberation, because deliberation is also achieved through a procedure of reasoning. Yet deliberation belongs to humans alone; other animals operate not from deliberation, but from a kind of natural instinct.

400. Then, when he says, "However, that, etc.," he shows what kind of experience recollection is. Because he has said that recollection is reasoning of a kind, and that to reason is an act of intellect and not the act of any body, as he showed in the second book of *On the Soul* (2.5; 417b), it could seem to someone that recollection is not a physical experience, that is, an operation exercised by a physical organ. But the Philosopher shows the contrary—

401. First, through what those who recollect are experiencing; and then, through the evidence of those who have an impediment to recollection, at the words, "Those whose upper parts, etc."

He makes three points about his first proposal. First he describes the experience he mentioned; then he assigns its cause, where he says, "The cause of this, etc." Finally he explains it in a comparison, at the

words, “Hence, both the angry and the timorous, etc.”

Therefore, he says first that a proof that recollection is a type of bodily experience, existing in one of two manners, either as an inquiry for a phantasm (that is, for some particular phenomenon) or in a particular physical organ, is that when some people cannot recollect, they are disturbed, that is, they are anxious with a certain restlessness, and strongly apply the mind to recollecting. Even if it happens that they now are not striving to recollect the remainder, as it were, ceasing from their intention to recollect, that restlessness of thought still remains in them. This especially happens in melancholy people, who are greatly moved by phantasms, because the impressions of the phantasms are more firmly fixed in them as a result of their earthy nature.

402. Then, when he says, “This cause, etc.,” he assigns the cause for the phenomenon he has described. First he sets forth its cause generally, then he shows to whom it especially applies, where he says, “But they are especially disturbed, etc.”

Concerning the first matter, it should be noted that activities that are of the intellectual part of the soul and occur without a physical organ are in his judgement such that a person can stop them when he wishes. But such is not the case in activities which are exercised through a physical organ, because it is not in a person’s power to make an affect that genuinely comes about through a physical organ cease immediately. Therefore, he says that, on the part of those doing the recollecting, the cause of something being recollected is not like an intellectual activity; that is, they can not stop it when they wish. Those who recollect set in motion a physical organ in which the experience of recollection exists, like those who throw something and do not have it in their power to stop the thrown object after they have set it in motion. By this analogy a bodily movement does not cease immediately whenever a person wishes it to.

403. Then, when he says, “But they are especially disturbed, etc.,” he points out those who especially are affected by this cause. He says that some people are greatly disturbed, that is, agitated during the act of recollecting, especially those in whom moisture abounds in the place where the organs of sensation are, such as those around the heart and brain, because once disturbed their moisture does not quiet down easily, until that which was sought turns up, and the movement of the inquiry proceeds directly to its completion. Now this is not contrary to what was said above with respect to what happens especially to melancholy people (who are of a dry nature), because the effect occurs in them because they must be vigorously impressed, whereas it happens in the moist because they are easily agitated.

404. Then, when he says, “Hence both the angry and the timorous,

etc.," he demonstrates what he said through a comparison. He gives two comparisons. The first concerns the emotions of the soul through which a bodily organ is in some way disturbed. He says that when anger, or fear, or lust, or something like this is aroused concerning some object (even if people wish to move in a contrary fashion, by withdrawing themselves from the anger or fear), the emotional affect does not subside, but is still aroused toward the same object. This happens because the agitation of the physical organ does not immediately quiet down.

405. He gives a second comparison, where he says, "This experience is compared, etc." He says that the experience he has described which occurs in recollecting is comparable to producing words and melodies and reasoning, when any of these is uttered by the mouth with any concentration, as comes about in those who with great intentness recite, or put forward pleas in court, or sing, or argue. For when they wish to stop, it may happen that they will still sing, or say something without intending to, because the movement of the original image still remains in the physical organ.

406. Then, when he says, "Those whose upper parts, etc.," he shows what he had proposed from the fact that recollection is impeded by one's physical constitution. He describes two physical conditions impeding recollection. He describes the first of these by saying that those who have upper members larger than the lower (which is the condition of dwarfs, who have short legs and the upper portion of the body proportionally larger), are weaker at remembering than those who have the contrary arrangement. The reason is that their organ of sensation, which is in the upper portion, is weighted down by an overabundance of matter. Consequently, the movement caused by sense objects cannot remain in them for a long time, but quickly dissolves on account of the mixing-up of their humors, and this brings about a defect of memory. But neither can they proceed easily in direct recollection because they cannot regulate the movement of matter, and this brings about a defect of recollection.

407. The second impediment deriving from the condition of a person's body is that very young people, such as infants, and very old people possess weak memories because of the changes involved in growth in the young, and of decline in the old, as we said earlier. Their bodily condition partly accords with the first, at least with reference to children, because for a long while they can be considered dwarfs, having a larger upper body.

408. Thus it is evident that recollection is a physical experience, not an act of the intellectual part of the soul but of the sensitive, which is, however, nobler and stronger in humans than in other animals because of its connection with the intellect. For what is of a lower

order is always made more complete when connected to its superior, as in some way taking part in its perfection.

409. Finally he concludes by summarizing what has been said about memory and remembering: what their natures are, and through what part of the soul animals remember. And likewise concerning what recollection is, how it comes to be, and on account of what cause.

1. The word *phantasm*, which Thomas takes from the Latin Aristotle, is often translated as "image," but it is left untranslated here, because its nature is precisely defined in the course of Thomas's commentary and the modern English word "image" has acquired too many distracting connotations. The word *motus*, fundamental to the Aristotelian analysis of perception, cognition, memory, and recollection, is translated variously here as "change," "movement," and "motion." The word *passio*, also fundamental to Aristotle's account of perception, is generally translated as "impression" or "affect," and occasionally as "experience" or (rarely) "emotion."

2. The critical difference between how angels and human beings understand is treated elsewhere at greater length by Thomas (e.g., *Summa theologiae* I.Q.58, art.5); Aristotle, as might be expected, did not mention it.

3. Readers might refer to the diagram of the brain (Selection Six) for a basic picture of the function of the "estimative" power—it was analyzed as the ability to respond instinctively to a sensed object with a positive or negative "gut feeling" toward it. Common to animals as well as humans, it explained why a sheep knew to flee from a wolf. As the diagram makes clear, in humans it was thought to function with the imaginative and memorative abilities of the brain.

4. For help in visualizing the relationships discussed, readers should refer to the triangle diagram that accompanies Lesson Seven, even though it does not contain all the letters mentioned in this passage. The Leonine and Marietti editions differ significantly in the order and sequencing of the letters Thomas invokes; evidently scribal practices muddled the text.

5. The Leonine text reads "sicut monstra in partubus animalium" (such as monstrosities in the births of animals).

8. Francesc Eiximenis, *On Two Kinds of Order That Aid Understanding and Memory*

translated by Kimberly Rivers

Francesc Eiximenis (d. 1409) was a Catalan Franciscan who wrote an important encyclopedia, *Lo Crestià* (*The Christian)* and participated in the religious and secular affairs of the Crown of Aragon in the late fourteenth century. He was born in Girona, where he may have been educated and where he probably entered the Franciscan order. Little is known of his activities before 1382, apart from a few documentary references: in December 1351 he was ordained subdeacon or deacon in Barcelona, in 1357 he attended a chapter meeting at the Franciscan house in Girona, and in 1367 he witnessed a will in Majorca. In the will he is called a *bacallarius,* indicating that he was still pursuing higher education. This education appears to have been extensive and to have involved much travel. In his many works, Francesc refers to studies undertaken in Paris, Oxford, Florence, and Rome, among other places, although it is not quite certain when these trips took place; sometime between 1357 and 1374 seems a likely guess. With the help of the royal family of Aragon he obtained the degree of master of theology at the University of Toulouse in 1374. He then returned to Barcelona as lector to the Franciscans and probably commenced work on *The Christian,* a work so impressive to King Peter that in 1381 he warned Francesc not to leave his convent until “the great work” was finished. Having completed volume 1, Francesc moved to Valencia, where he spent most of his remaining career and wrote his major Catalan works. He also had official duties, preaching at the funeral of Peter III, serving as royal confessor, and organizing a crusade to clear the African coast of Berbers. In 1408 the Aragonese pope, Benedict XIII, invited Francesc to attend the Council of Perpignan, where he was honored with the titles patriarch of Jerusalem and bishop of Elne. He died in 1409.

Among Francesc’s many religious and political treatises, his most famous works are *The Christian,* a work planned for thirteen books (only four of which were completed) that deals with the Christian life, temptation, the seven deadly sins, and public life; *Llibre dels àngels* (*The Book of Angels)* and *Llibre de les dones* (*The Book of Women);* and *Vita Christi* (*The Life of Christ).* To ensure that lay people could understand his religious teaching, Francesc wrote all these works in the vernacular, carefully translating or paraphrasing Latin quotations into Catalan. Thus Francesc demonstrates a concern for lay devotion

in his vernacular works that also appears in his preaching treatise, which he wrote in Latin. It is the *Ars praedicandi populo* (*The Art of Preaching to the People)* that contains his memory techniques and that has been translated in part here.

Written most likely in the early part of Francesc's career, his *Art of Preaching* survives in three manuscripts.[1] Originally the treatise was meantto introduce three volumes of sermons, which have unfortunately been lost. His art is part of a genre of treatises on preaching known as *ars praedicandi.*

Such treatises sprang up in response to an animated market for preaching in the late twelfth and early thirteenth centuries. Across Europe, ordinary people cried out for more and better preaching; to equip the newly recruited preachers for their task of teaching right doctrine and right action and prohibiting vice, preaching treatises were developed.To teach new preachers the tools of their trade, the manuals relied partly on ancient rhetorical thought, partly on the theological teachings of the medieval schools and universities, and probably partly on experience. Most instructed the reader in the composition of the "modern sermon" (*sermo modernus),* the favored style of medieval preachers, particularly mendicant preachers, starting from the very end of the twelfth century. These sermons usually had some combination of five distinct parts: the theme, a statement of the day's scriptural quotation; an opening prayer for divine aid; the protheme, a second scriptural quotation; the division, a statement of the parts of the theme; the *dilatio,* an amplification of the parts of the division; and sometimes a conclusion. By the end of the fourteenth century, when Francesc wrote, the *artes praedicandi* had become a fairly conventional genre. However, Francesc's tract is refreshingly practical and distinct in its emphasis on memory.

Because the organization of the manuals usually closely followed the order of the modern sermon laid out above, it is rare to find any discussion of how preachers were supposed to recall their sermons.This is true even though the ancient rhetorical course regularly included training in *memoria* and even though other forms of medieval rhetoric, like *ars dictaminis* (the art of letter writing) and *ars poetriae* (the art of composing poetry and prose) sometimes treated *memoria.* Francesc's discussion of the topic of memory is unusual and perhaps unique as an *ars praedicandi* that includes a section on remembering preaching material. His *ars* is not arranged according to the parts of the sermon, but rather according to the four Aristotelian causes (final, efficient, formal, and material). For him, the final cause of preaching is the reason one has for preaching, the efficient cause is the preacher's demeanor, the formal cause is the method one uses to preach, and the material cause is the content that one preaches. Each

of the four major divisions of his treatises elaborates on these causes. Francesc reminds his readers that the overall goal of preaching should be the glory and praise of God, not of the preacher. To ensure that would-be preachers stick to this goal, Francesc devotes the second section (on the efficient cause) to a discussion of the preacher's behavior. Preachers, by being chaste and poor, set an appropriate moral example for the people.

Once the larger framework of preaching has been explored, Francesc explains how to preach. His advice constitutes the formal cause, or method of preaching. He outlines seven "aspects" *(conditiones)* a preacher ought to maintain: preaching should be "very brief, very fervent, leisurely, devout, moral, prudent, and ordered." This is the context of the memory section, which occurs under the aspect of "order." Order is so important to Francesc that he provides three chapters on its benefits: the first describes how order can aid understanding, the second how it aids memory, the third how it supports study and language. In fact, these three chapters serve the ancient rhetorical principles of invention, memory, and arrangement, as the first chapter actually shows how order can be used to generate preaching material, the second how it can help one to remember the material generated, and the third how it can be used to arrange the entire sermon. The first two chapters, which are densely packed with memory precepts, are translated below.

Francesc's overall mnemonic conceit is that order is "the master of one's memory." The key to remembering preaching material is to coordinate what one needs to remember with some well-known order. The order can be logical or verbal, such as following the Aristotelian causes or the categories to help one recall one's sermon, or it can be visual, such as thinking of a route through a city, the parts of a house, or the parts of the human body. One picks an order and then ties the material to be remembered into it. For example, he teaches his readers to recall the names of the apostles by arranging symbols associated with them in order. One recalls Peter by placing a large rock at the beginning of a familiar road and Paul by placing two people kissing (for peace) in a village a little further along on the same road.

His system relies on the kind of mnemonic advice found in a variety of medieval sources. His description of a number-line method bears some resemblance to the one set out by Hugh of St. Victor in his preface to the *Chronicon,* as does his recommendation to place mnemonic cues in the book in which one studies (see Selection 2). His method is also similar to that of the *Rhetorica ad Herennium* and perhaps seemed a simpler and more practical method to his contemporaries. Certainly he knows the work and quotes its supposed author, Cicero, at least three times. He even says that many "moderns

of his time" found Cicero's method too difficult to use. However, because that statement is embedded in a discussion of how to memorize "verbal material" like the titles in medieval law books, it is also possible that it was Cicero's rules for the memorizing of *words,* rather than the whole system, that Francesc's contemporaries rejected.These rules were considered difficult even by the author of the *Ad Herennium* himself.[2]

While there are similarities between the two methods, Francesc does not emphasize the distinction between places and images that is so crucial to the *Ad Herennium.* He explains how to create places, which provide order, but he does not advise putting images of what one wants to remember in them. In fact, he seldom uses the word *imagines,* preferring instead to find resemblances *(similitudines)* between the thing to be remembered and the order one is using.[3] The place (*locus)* often serves as the similitude of what one wants to recall. Of course, the places usually require the creation of images, so there is still a strong visual component to Francesc's method.

Another difference is that Francesc translates Cicero's vocabulary into the terminology of the medieval schools. Instead of creating images for words *(verba),* one has memory of names *(nomina),* words *(vocabula),* and terms *(nomina incomplexa);* instead of images for things, one has memory of things signified through names *(res significatae per nomina).* This change implies that Francesc speaks to an audience for which the schools' terminology of signification theory makes the most sense.

In the end, Francesc's mnemonic advice provides a fascinating glimpse into the world of medieval preaching and may help to elucidate some of its peculiarities, such as the common medieval practice of preaching to the people by means of similitudes and figures; Francesc's explication of the human figure as a metaphor for the state could be lifted from many a medieval sermon. Certainly the human body is a common organizer of mnemonic *loci* in the fifteenth-and sixteenth-century *Art of Remembering* treatises.

SOURCE: Translated from P. Marti de Barcelona, O.M. Cap., *"Ars praedicandi,"* in *Homenatge a Antoni Rubió i Lluch: Miscellània d'estudis literaris històricis i lingüístics* (Barcelona: Biblioteca Balmés, 1936), 2: 300–340. The same edition is available in Marti de Barcelona, "L'Ars *praedicandi* de Francisc Eixemensis," *Analecta sacra tarraconensia* 12 (1936): 301–40.

FURTHER READING: Although historians of medieval Iberia have rightly given Francesc a great deal of attention, he has not received as much notice in the fields of preaching and mnemonics. I have discussed this work, as well as the context of mnemonics in preaching, in "Memory and Medieval Preaching: Mnemonic Advice in the *Ars*

praedicandi of Francesc Eiximenis (c.1327–1409)," *Viator* (1999): 253–84. See also Xavier Renedo, "Una imatge de la memòria entre les *Moralitates* de Robert Holcot i el *Dotzè* de Francesc Eiximenis," *Annals de l'Institute d'Estudis Gironins* 31 (1990–91): 53–61. Background about medieval preaching and about the *ars praedicandi* may be obtained from D'Avray, *Preaching of the Friars,* and Marianne G. Briscoe and Barbara H. Jaye, *Artes praedicandi and artes orandi,*Typologie des sources du Moyen Âge occidental 61 (Turnhout: Brepols, 1992). For bibliography about Eiximenis to 1980, see David J. Viera, *Bibliografia anotada de la vida i obra de Francesc Eiximenis (1340?-1409?),* Fundació Salvador Vives Casajuana 61 (Barcelona: R. Dalmau, 1980). For biographical details in English, see Curt Wittlin's introduction to Francesc Eiximenis, *Psalterium alias Laudatorium Papae Benedicta XIII dedicatum* (Toronto: Pontifical Institute of Mediaeval Studies, 1988) and David Viera, *Medieval Catalan Literature: Prose and Drama,* World Authors Series 802 (Boston: Twayne, 1988).

–Kimberly Rivers

Here follows the seventh aspect of preaching which a preacher ought to maintain, namely, that he preach in an orderly manner.

Seventh, the apostolic messenger or "trumpet of Christ" and distinguished preacher ought to speak in an orderly and not a confused or obscure manner, lest he confuse himself and hinder his listeners' understanding. Moreover, order in preaching comprises, in brief, three parts: the first part aids understanding, the second aids memory, and the third aids study and speech.

Part 1: Concerning the Kind of Order That Aids Understanding

Note that if you wish to advance in the examination of the first kind of order, you ought to use the following rules. The first rule is this: if you are looking for something to preach, have recourse to the causes. The causes are treated by the Philosopher [Aristotle] in the second book of the *Physics,*[4] where four are named, namely the final, efficient, formal, and material. If, therefore, you wish to preach about charity, ask first what is its end, and you will see that it is to love God and neighbor. Second, ask what is its efficient cause, and you will see that charity's growth is brought about in an active manner by God and sometimes by a good life. Third, if you ask what is its formal cause or its method, you will see that it is to love or love itself. Fourth, if you ask what is its material cause or its entity, you will see it is the one highest quality existing in a subordinate manner in the blessed soul. If you wish to amplify any one of these four causes, in the order given,

then you will be able to proceed clearly and copiously.

The second rule is this: in order to have more ample material for your sermon, consider your proposition and its arrangement according to the following verse: "thing, person, place, deed, time, number, and word."[5] Through it seven things may be drawn out in a figure of Scripture. First, if you wish to draw out and invent material for a topic, compare the corporeal aspect of your topic to the spiritual aspect. So, if you wish to derive some significance of the temple for your proposition, you will see that the material temple signifies the spiritual one, namely, a beautifully adorned soul. The second term is "person," as David signifies the just man, as is obvious from the interpretation of his name: for it is interpreted as beautiful of face and strong of hand.[6] "Place" can also be interpreted in the same way, for a mountain signifies the perfection of justice and life. "Deed," as in Abraham's sacrifice of Isaac, his own son, signifies that everyone ought to sacrifice to God what he holds most dear. "Number" can also have significance, as "binary" signifies charity, "quaternary" constancy, and "septenary" universality. The signification of a word can be found through its definition and through the interpretation of its name. Time also signifies, as the day represents grace and night sin.

The third rule is this: if you wish to preach in an ordered fashion and to find much material quickly, utilize the following method of amplification, which can be done in the following five ways. If you wish to prove something, such as that parents should be honored, immediately assemble your proofs and arrange them in the following order. First, set out one or several scriptural quotations, either the kind that contains the words of your assertion *(vocales)* or the kind that contains its ideas *(reales);* however, quotations that contain the same ideas are better, less curious, and more useful to listeners. Similarly, figures from Scripture can be set out and explained to further the argument. Second, set out proofs drawn from the original sources *(originalia)* of the saints; third, from natural reason or common experience; fourth, from approved examples of perceptible things, either of living beings, or not. Fifth, set out certain stories and deeds of ancestors that have been approved, concerning which Gregory says that "examples move more than words."[7] And this amplification is sufficient for every theologian.

However, many preachers today, relying on outlandish teaching and "ever learning and never attaining to the knowledge of the truth,"[8] devise profoundly deceitful amplifications of true doctrine, beyond the ones set out above. For some amplify their themes with canon and civil laws, which are not the business of evangelical preachers and which are exceedingly useless for supporting assertions. Others preachers amplify their sermon material through the sayings of

the philosophers, but when they put forth the philosophers' moral sayings and things that are not unuseful, we do not disapprove. Others amplify their arguments through poetry and fiction, and we detest these fables, lest our listeners become the kind of people against whom the Apostle said, "they are turned unto fables."[9] Others use new prophecies, and this is ill-advised, for they are doubted, and for this reason they ought not to put them forward to the people in public because of reverence for the divine word. Other preachers amplify through the customs and approved habits of foreign peoples, and this is not an evil practice unless other, better methods, such as those mentioned above, are ignored.

The fourth rule is this: for every proposition, if you wish to invent material in an ordered way, think of the ideas antecedent to it, from which the theme follows or attends logically, think of the ideas which accompany the proposition, and think of the conclusion which follows from it.[10] For example, if you wish to discuss this quotation: "Blessed is the man who hath not walked in the counsel of the ungodly,"[11] think first of what makes a man "blessed," and you will see what from all of the things that have gone before. First, because any man "who hath not walked in the counsel of the ungodly" is not a sinner and therefore is "blessed." Second, because no such man is hated by God and therefore he is "blessed" with the blessedness that is granted to the wayfarer. Third, because every such man is in a state of love and therefore he is "blessed." Fourth, because to such a man eternal blessedness is promised, and therefore he is "blessed," and so on concerning an infinite number of antecedents.

Once these have been discussed, consider the accompanying ideas, for what things accompany the blessed man? Certainly these: first, a blessed man hates evil men; second, a blessed man looks after the state of his soul; third, such a man pleases God; fourth, such a man fulfills the commandments. Third, look for what follows from the proposition: first, it is certain that if a blessed man perseveres, he will be saved; second, such a man will be great with God compared to others; third, a blessed man pleases the angels of God; fourth, a blessed man is prudent and just in his actions, because "he hath not walked in the counsel of the ungodly."

The fifth rule is that if you wish to discover quickly material for preaching or to amplify material that you already have, refer to opposites. For example, suppose I wish to amplify material about chastity by showing that this is a virtue of the highest dignity, then I ought to refer to things impossible for chastity and to things contrary to it, and through the evil nature of its opposite praise the proposition. For example, I could say this: "Chastity is certainly the most important virtue, as is obvious from its opposite. Look at people attracted to

fleshly things, who are extremely vile and horrible. Their name stinks, and they stink, and they are notorious. They are gluttons and this is the daughter of penitence; they are silly, and this makes even women bold. O what a great virtue is chastity!" If you wish, refer also to everything that is contrary to chastity, because through such distasteful details, you will be able to recommend the proposition according to the method that has been stated.

The sixth rule is that if you wish to discover material for preaching in an ordered way, look for orders. Notice that anyone wishing to investigate preachable material ought, as it were, to place his theme or whatever he wishes to preach about in the center of a circle. Around the ring of this circle you ought to arrange in order the Ten Commandments, the articles of faith, the gifts of the Holy Spirit, the eight Beatitudes, the five corporeal senses, the seven works of mercy, the seven virtues, and the seven vices. And you will match one by one the aforementioned theme of the sermon to a classification from the above list successively, according to agreement and opposition or according to some pertinent factor which will occur to you, until you have enough material to preach. Under this rule is included the whole categorical order, so that if you should seek out the proposed matter or theme under the order of the categories concerning your proposition—what it is, how much, what sort, whose, where, when, etc.—much material would occur to you. Also under this rule falls the whole order of logical places, by the ordering of which many mental prompts will occur to you immediately if you look for material for your theme. And any order disposing our intellect toward finding mental prompts about a theme usefully falls under this rule.

The seventh rule, which is especially necessary and the counsel of the ancients is this: a person wishing to have material ready at every opportunity ought to have recourse first to prayer, which, according to Augustine, uncovers dubious matters better than study. Second, he should resort to the humble questioning of a more experienced person, because by the merit of humility, he will be given what he seeks. Third, he should have recourse to disputation, which inflames the interior self about the things over which he hesitates and allows his intellect to see more profoundly; then, because in responding and arguing over matters that cause doubt, another reveals many things that will then give to you what you want. Fourth, he should have recourse to practice, which, according to Isaiah, gives understanding, namely by studying frequently and fervently or by performing the act, which is required to practice the intellect and all the capacities of the whole man. Fifth, a man should have recourse to free communication, whence he who freely shares his sermons with someone else and retains nothing of them for himself because of the zeal of charity, will

not be deserted by God, but at the opportune time will have abundant material to preach; as the Lord says, "Give, and it shall be given to you."[12] Note here also that each of the aforesaid means to amplify Scripture can itself be amplified through conclusions, similar directions, interpretations, persuasions, distinctions, divisions, promises, and threats.

The eighth rule is to return at once to the causes. If you wish to preach about virtue, sin, punishment, or glory, the four matters about which there ought always to be either direct or indirect preaching,[13] then there should be an immediate return to the causes, that is, the efficient, final, material, or formal cause. For example, if I wish to speak about faith, I ought to direct my attention to the efficient cause of faith—which is God; and to the final cause—why faith was given to us; to the material cause—what is faith? and to the formal cause—in what way does faith proceed?

The ninth rule is that if you have to preach anything without preparation, run through the parts of the gospel or the epistle or both, because there is enough material there for preaching suddenly, however ignorant a preacher may be.

The tenth rule is about quickly expounding one psalm of the Psalter or part of it. And first have in mind and foresee which psalms are more moral and you cannot fail—so long as you have first had recourse to the grace of the Holy Spirit and to prayer with the right intention, namely, that by preaching you intend the honor of God—and you will deserve to profit by your undertaking. Pray frequently to God and in this always have a saint as an advocate. And especially beware lest you depart from the three things said above, so that you preserve yourself wholly from any trifle or laughter in all of your sermons. And consider it certain that those who turn themselves to trifles and fables when preaching will finally be rendered contemptible and miserable by God before his people.

Part 2: Concerning the Kind of Order That Aids Memory

Next we must consider the second kind of order, namely, the kind that aids memory. First, it should be noted that our memory is either of names and words (*nomina* or *vocabula)* or the things they signify *(res significatae).*[14] Words are difficult to remember, because for each one some similitude or figure must be imagined. But when we have to remember things (res), then a single similitude or figure will represent a whole story to us, just as Christ's cross indicates to us the entire sequence of events of the passion of Christ and the image of a king with a lance will signify to us a victory in some battle.[15] Concerning each kind of remembering, Aristotle posits a similar example in his book *On Memory and Recollection,* namely, that every memorable thing

results from a past action, that is, it often comes before a sense, as before the eyes or the ears or the touch, or according to what was once sensed by one or several senses.[16] It should, however, be noted that past sensation is useful to memory only if through that sensation is perceived some order in the thing sensed, for it is difficult to retain a multitude of memorable things.

This is why the moderns recommend this particular rule for remembering names: if you have to remember a great many names, arrange them on a long road according to some similitude in an ordered way. For example, suppose that you have to remember the names of the apostles: think of a road familiar to you at the start of which is a large stone, which will represent Peter (whose name means "stone"). Next, you will think of two people kissing in some village placed suitably near the stone; together they will represent Paul, who is signified through the kiss of peace (which the two people kissing represent). Third, place at a comfortable distance from the village a large lamb *(agnus),* which will stand for Andrew, because both of these words begin with the same letter. If something else more appropriate for remembering "Andrew" occurs to you—such as a small boat and nets, because he was a fisherman, or a large sailyard, because he was hung on a cross—then put it in the third place. Proceed in the same way to remember the other apostles and any other terms (*nomina incomplexa)* to be remembered.[17]

Second, note that under the topic of terms (*nomina incomplexa)* you can include numerals *(nomina numeralia),* so that if you are given many words to remember, and then you are asked in what place a certain word was listed, whether in the eighth place, the tenth, the eighteenth, or the twentieth, in order to answer quickly, use this art. Form for yourself an extremely familiar order of places, just as was said above, and in your imagination put in that series of places numbers, beginning from one to whatever final number you wish. Then, regardless whether those places are mentioned in a backward order or randomly, you will immediately know at the mention of any of those places to say the word for which the place stands and remember it. And then if you are asked in what place a certain word was located, by remembering the place where you put that word, you will remember the number which that place represents to you. This art is somewhat difficult, but nevertheless it bears considerable fruit subsequently, and one can have at one's disposal many words and their numbers without much effort.

For this reason Tully in his *Art of Remembering* says that it is necessary for the person using artificial memory well to be clever and capable and especially that he know how to invent a copious number of places and to order them well,[18] and to discover quickly a

resemblance *(similitude)* between the place and the thing he means to memorize. I knew someone who, when he wished to remember numbers or things memorized under their proper name, used this art: he made an ordered series of things, each of which by its name would indicate a certain number, and then by thinking of the thing, he immediately had the number in mind. For example, he used to imagine a straight line reaching from the heavens to the earth, and on the first part of this line he placed the firmament which stood for one, because there is only one. On the second part of the line he placed the heavenly bodies, the sun and the moon, for the number two, because these two bodies represented two things to him. On the third part of the line he placed three elements, namely, fire, air, and water, for the number three; on the fourth part he placed the four corners of the earth, that is west, east, south, and north. On the fifth part he placed a hand representing to him the number five, and so on. From these examples we are taught how we should be directed in the present plan of remembering names.

Remembering things signified by words *(res significatae per nomina)* is easy for the person who takes this for a fundamental rule: always order the things to be remembered in some order corresponding to the things to be remembered. We can easily find these orders in many ways: (1) in major roads and paths known to us; (2) in anything that is straight and situated in an orderly way; (3) in large and ornate homes; (4) in the human body and its ordered members; (5) in the book in which one studies many subjects; 6) in a mixture of all these methods and others similar to them; (7) in the joining of syllables to form words and names; 8) when the end of one phrase cues the beginning of the next.

Concerning the first order, that is, roads and routes: first, I will think of a direct route from Rome to Santiago de Compostela; second, I will think next of two distinguished and very famous cities between them, because the more perceptible and remarkable a thing is, the more quickly and forcefully it is imprinted in memory. Third, I will think of the attributes of each city which are different from those of the others, because similarity and correspondence in attributes greatly disturb memory, as can be seen in newly learned verses that have similar wording. Fourth, I will think of them as equidistant from one another, and fifth, I will think of an order to give the cities in their sites, such as these: Rome, Florence, Genoa, Avignon, Barcelona, Saragossa, Toledo, and Santiago de Compostela.[19]

Then, suppose that I have eight matters to remember, namely to speak about clerics, about money, about merchants, about a great bridge, about burgesses, about oil, about knights, and about the apostles. Therefore, I will place in Rome the material concerning

clerics, because it is the city of clerics, and the spiritual head of them and of the whole world. In Florence I will place, in imagination, the money about which I have to speak, because Florence is a very famous place for money. Third, I will place in Genoa the matter concerning merchants, because many merchants live there. Fourth, I will place in Avignon the material concerning a great bridge, because there is the most famous bridge in Christendom.[20] Fifth, I will put the burgesses in Barcelona, because there the burgesses have huge dwellings and great public buildings, so that they rightly seem great. Sixth, I will place oil in Saragossa, because much oil is produced there. Seventh, I will place in Toledo the material about knights, because many knights live there. Eighth and last, I will place in Santiago de Compostela the matter about the apostles, because this is the place that, from the body and name of the apostle James, leads us to the memory of the apostles.[21] And then I will recall the matters placed along the imaginary route through which my theme runs, remembering them either by going forward starting from Rome or by beginning from Santiago de Compostela and continuing backward to Rome.

What was said about roads and routes is also true of things ordered in a straight line other than roads, just as was mentioned above for the second example. For instance, begin by thinking of the empyrean (the highest sphere) and descend in an orderly way through the middle spheres down to the center of the earth; in each of the intermediate heavens you can place anything memorable, just as was said in the list above about cities and villages.

Third, it is obvious that this method will also work with cities, houses, and villages; so if you wish to remember many things, think of various parts of a city or village that are well known to you, and through straight routes and continuous streets proceed by placing memorials in noteworthy places. And you can do the same thing in a large church, so that you should think of memorable places and chapels according to the sites, pictures, distances, and their invocations, and to each one attach your memorial, using some similitude. Running through these places later, you will be able to remember well the things located there. So if you have to speak about the Trinity, place that topic on the greater altar, since the Trinity is something great amid all the rest; if you have to speak about purity, place it in your imagination on the altar of the blessed Virgin; if about contemplation, on the altar of St. John, and so on with the rest of the things you need to remember, setting them in places fixed and coordinated to them by some similitude, just as we said, and you will be able to remember them.

Fourth, the same principle is obviously applicable to the human body, beginning from the feet up to the hair or vice versa; for the feet

can signify peasants or the foundation of a house; just as the feet support the whole body and the peasants support the republic by their labor, so also their feet labor the most in the body. And the shins and the legs signify the burgesses, who are immediately above the peasants; the stomach represents those who receive the money of the republic, just as the stomach contains and receives everything. The arms symbolize the knights, because the knights labor by warring with their arms. The tongue symbolizes those skilled in the law, whose job it is to talk; the eyes, wise men, because they look out for and see damage or utility to the republic; ears, stewards, because they have to hear everything; the head, the king, because he is the head and principal part of the republic, just as the head is in our body, and so on.[22]

Fifth, you can create order in the book in which you study, by thinking that this idea *(sentencia)* is in such a part of the book and that idea in another; and this thought is on the right-hand side of the first page and that one on the left-hand side; and this idea has a paragraph mark in the beginning, and that one has a capital letter or a cross next to it or some such sign, and so on.

Sixth, when one has to memorize things quickly and no order appears that lends itself to arranging our proposition in a memorable way, then mix the orders together. For I can remember by using part of the first order mentioned, part of the second, and so proceed concerning the others. And universally take this for a general rule: wherever the intellect is not able to discover order, there you have the foundation of memory, because a familiar order of things is the master of your memory. And because the intellect is able to create orders for itself in infinite ways, therefore, material for remembering is able to present itself to you in infinite ways; also what we said above in the preceding chapter about order can greatly aid memory through logical order *(ordo connexus),* such as the order of the principal causes and the order of the categories, and so also the other orders mentioned.

It should also be stated that what we said about things can aid in remembering verbal material, so that if you wish to remember the titles of the *Decretals* or of the *Corpus iuris civilis* or of anything contained in them, do it in the prescribed way, proceeding by attaching the titles in order to some places corresponding to the material to be remembered.

Note that Tully and many others, wishing to aid memory artificially, said that images of memorable things ought to be made and commended to the aforesaid places. However, because he has a long tract about the difficulty and great effort of remembering brought about by the images of things located in the places, the moderns of this time do not approve that method, but, considering more effective

and easier that method which we just set forth, they direct themselves to it, passing over the ancient method. For this reason, I took care to speak only about this new mode.

Seventh, you can remember when a word or name is formed from syllables, each syllable of which is a reminder of something to be remembered located in the syllable. For example, if I wish to memorize the names of some men, I will put them together in some syllables from which I will make a new word. Say that I wish to remember a man called "Aurelius," another called "Ximus," a third called "Linus," another called "Arnaldus," and another named "Torquatus." From the first syllable of these names, I create the word "Auxiliator," so that the first syllable, which is "Au," represents to me "Aurelius," and the second, which is "Xi," "Ximus," and the third, which is "Li," represents to me "Linus," and the fourth, which is "A," represents "Arnaldus," and fifth, which is "Tor," stands for "Torquatus." Similarly, the rule can be applied to anything you wish, because by the syllables you can remember the name of any matter; and this method especially will enable you to ruminate over things in succession.

Eighth, some things are remembered through the connection of words, so that if you have to refer to some topics, make sure that the end of the preceding phrase is also the beginning of the next, and so the preceding one introduces you to the following. For example, suppose that you have to discuss five things, that is, heaven, fire, air, water, and earth, you should say: "First heaven must be discussed and it is obvious that it is made of fiery matter, while fire must be investigated secondly, because it is situated near air. And I will talk about air thirdly because it is vaporous, and it has some of the properties of water. The fourth topic, water, is cool and for this reason is joined to the earth. The fifth matter, the earth, is solid in the middle, standing apart equally from the others." Notice how the end of the preceding clause introduces the second one and teaches you to remember from what was said just before.

Ninth, memory is aided through remembering the site of the words, according to the arrangement seen in the book or exemplar where one studied the things to be remembered. For this reason, the ancients, like many today, always used this method. In the book in which they studied their sermon or some other thing they wanted to remember, they arranged their material in order in straight lines where an idea *(sentencia)* or notable section ended. They made some obvious paragraph mark or another notable sign in ink in the margin, and impressed strongly on themselves those signs and the things so signified. Thus when they recalled the signs while preaching, as if reading in a book, they remembered as they looked at the signs they

impressed in the book, through which they were led back to the memory of the idea reposing there. Therefore in the order of sermons placed here below [this treatise in the manuscript], I wish to ensure, inasmuch as I can, that the lines which I made for remembering better the set order of things to be said be followed and recopied by the note takers *(reportatores)* and scribes in their quires in order to minister to the slipperiness of the memories of those who have to preach to the people.23

So it must be understood that because the artificial way to memory is the application of things to be said or remembered to some order, the things that have to be remembered can be applied to the order of the four causes, that is, the efficient, final, formal, and material; or to the order of logical places or proposed matters or to whatever things where order is found. It is true that some aid their memory by medicine, concerning which skilled and judicious doctors must be consulted. Others, however, continually rely on devout prayer, and this is the Christian remedy and the one to be preferred over all others.

1. The manuscripts are Cracow University Library, Univ. Jag. 471. Aaa. 1.8 (*a*.1444), fols. 466–87; Budapest, Bibl. Univ. R. Scientiar. 73. No. 1 (xv), fols. 109–44; and Rome,Vatican Library, Vat. Ottob. 396 (xv), fols. 29–44.

2. *Rhetorica ad Herennium*, All references are to the Loeb edition (see the General Bibliography). By the fifteenth century, medieval scholars may not have made sharp distinctions between Cicero's art of memory and other mnemonic practices. As an example, one might look at the *Tractatus artis memorativae eximii doctoris artium et medicinae magistri Girardi*, a fifteenthcentury ars memorativa treatise included in Rossi, *Clavis universalis*, 280–85. "Master Girardus" also complains about the difficulty of creating places and images, but rejects neither the art of memory nor, seemingly, Cicero's rules, as he quotes Cicero with approval several times. Instead he offers tips on how to create places and images more easily, tips that are only marginally related to Cicero's advice.

3. In this advice, he may be following Thomas Aquinas, who advised people to make similitudes of the things they wanted to remember.

4. Cf. Aristotle, *Physics*, 2.3–7, in *The Basic Works of Aristotle*, ed. Richard McKeon (New York: Random House, 1941). For the use of the causes in medieval literary analysis, see Alastair Minnis, *Medieval Theory of Authorship: Scholastic Literary Attitudes in the Later Middle Ages*, 2nd ed. (Aldershot: Wildwood, 1988), 28–29.

5. The seven terms in Francesc's hexameter verse have a long history. The proximate literary source for them may have been Hugh of St. Victor' *De scripturis et scriptoribus sacris praenotatiunculae*, where Hugh makes a distinction, derived from St. Augustine' *De doctrina christiana*, between the signification of words (*voces*) and of things (*res*) in Scripture. The *res* in Scripture, unlike those in secular writing, are capable of multiple meanings and should be considered according to six *circumstantiae:* thing, person, number, place, time, and deed (*res, persona, numerus, locus, tempus, and gestum*). See Johannes Gründel, *Die Lehre von den Umstanden der menschlichen Handlung im Mittelalter*, Beiträge zur Geschichte der Theologie und der Philosophie des Mittelalters 39.5 (1963), 13–14, 24, 37,. For an extended discussion of the meaning and significance of Francesc' use of this verse, see chapter 3 of my

“Memory and theMendicants in the Later Middle Ages” (PhD dissertation, University of Toronto, 1995).

6. Bede interprets the name David in the same way: *In Lucae evangelium expositio, in Bedae Venerabilis Opera*, Pars. 2, 3, ed. D. Hurst, CCCM 120 (Turnhout: Brepols, 1960), 1.2: 47–48.

7. Cf. Gregory the Great, *Dialogorum Libri IV, PL* 77.153, and *XL Homiliarum in Evangelia, PL* 77.1290D.

8. 2 Timothy 3: 7. Francesc relies on biblical authority to criticize the practices of other preachers who construct needlessly complicated sermons. He makes the same point in section one of his *Art of Preaching,* where he complains about speakers who ignore the spiritual needs of their listeners and instead focus on their own reputation. Some preachers “in contempt of the word of God and to the enticement of their listeners, devote themselves to elaborate, rhymed, and rhetorically ornate words, to which they join for their greater ostentation sayings from the *quadrivium,* such as arithmetic, geometry, astrology, and music, although often they know nothing of which they speak” *(Ars praed.* 1, p. 6).

9. 2 Timothy 4: 4.

10. Cf. Cicero’ *Topica,* 4:19’20; 12: 53, trans. H. M. Hubell, Loeb Classical Library (Cambridge, Mass.: Harvard University Press, 1960).

11. Psalm 1:1.

12. Luke 6: 38.

13. These are the four things that St. Francis told his followers to preach in his rule. See “The Rule of i223,” in *St. Francis of Assisi: Writings and Early Biographers,* ed. Marion A. Habig (Chicago: Franciscan Herald Press, 1973), 63.

14. The more usual distinction in mnemonic treatises is between images for memory for words and images for memory for things. For this Francesc substitutes medieval logical terminology. Instead of images of memory for words, he posits simply memory of *nomina* and *vo-cabula. Nomen* in medieval grammatical and logical thought could mean either noun or name; *vocabula* usually names or words. I have translated *nomina* either as “names” or as “words,” as the context seems to demand. Note the use of similar terminology in the *Tractatus artis memorativae eximii doctoris artium et medicinae magistri Girardi,* a fifteenth-century *ars memorativa* treatise included in Rossi, *Clavis universalis,* 280–85.

15. Cf. *AdHerennium,* 3.20.33, which declares, “Often we encompass the record of an entire matter by one notation, a single image.”

16. Cf. Aristotle, *De memoria et reminiscentia,* trans. Sorabji, *Aristotle on Memory,* 449^{a}9: “For whenever someone is actively engaged in remembering, he always says in his soul in this way that he heard, or perceived, or thought this before.” See also 4jo^{a}ij.

17. *Ars praed.* 3.7.2, p. 26: “et sic procedas de aliis apostolis et de quibuscumque uoleris incomplexis nominibus recordari.” The edition reads “in complexis nominibus.” Aristotle’ *Categories* defines incomplex names as “those without complexity, such as ‘man,’ ‘ox,’ ‘runs,’ ‘con-quers.’” Complex names are “those which are said with complexity, as ‘man runs,’ ‘man conquers,’” i.e., propositions. See Aristotle, *The Categories* iaij, in McKeon, ed., *Basic Works,* or *Aristoteles Latinus, Categoriae vel Praedicamenta,* “Translatio Boethii,” ed. Laurentius Minio-Paluello (Bruges: Desclée de Brouwer, i96i). For more on medieval logic, terms, and propositions, see Gabriel Nuchelman, “The Semantics of Propositions,” in *The Cambridge History of Later Medieval Philosophy: From the Rediscovery of Aristotle to the Disintegration of Scholasticism, 1100–1600,* ed. Norman Kretzmann, Anthony Kenny, and Jan Pinborg (Cambridge: Cambridge University Press, i982), i97–2i0.

18. Cf. *Ad Herennium* 3.i6.30.

19. The cities are “Roma, Florencia, Ianua, Auinio, Barchinona, Cessaraugusta,

Toletum et Sanctus Iacobus." Francesc's order is geographical; he starts from central Italy and goes north to Florence and Genoa, then west, following the coast of the Mediterranean Sea to Avignon. From there he travels south into Spain to Barcelona, Saragossa, and finally Santiago de Compostela, site of one of the great pilgrimage churches in the Middle Ages.

20. Francesc makes a pun on the word *pons* (bridge), saying that there he places the material concerning a great *pons,* "because there is the most famous *pons* in Christendom," i.e., probably both the famous Pont St. Bénézet and the "pontiff" or pope who in the mid-fourteenth century resided in Avignon. The Pont St. Bénézet was built between 1177 and 1185, long before Francesc's lifetime; see Yves Renouard, *The Avignon Papacy: The Popes in Exile, 130S-1403,* trans. Denis Bethell (New York: Barnes and Noble, i970), 35. The French nursery tune "Sur le pont d'Avignon" reflects the importance of this bridge in the popular imagination.

21. Santiago de Compostela was a cathedral city and pilgrimage site in Northwest Spain. Francesc calls it "Sanctus Jacobus" in Latin because in the first half of the ninth century the tomb of St. James the Greater was thought to have been discovered there. St. James was made the patron saint of Spain, and the city of his burial place became an episcopal see. A church was built over the tomb and it quickly became an important pilgrimage center, a position it held throughout the High Middle Ages.

22. Francesc' image of the human body representing the parts of the republic closely follows a similar image in John of Salisbury' *Policraticus*, 5.2. I am indebted to Mary Rouse for this reference.

23. Francesc' *ars praedicandi* originally served as the prologue to three volumes of sermons that have unfortunately been lost; see Marti de Barcelona, "Introduction," to *"L'Ars praedicandi* de Francesc Eiximenis," 3. The autograph might have demonstrated what scribal practices he thought most likely to aid memory. See also Josep Perarnau Espelt, "Un fragment del Liber sermonum de Francesc Eiximenis," *Arxiu de textos catalans antics* 10 (1991): 284'92.

9. Thomas Bradwardine, *On Acquiring a Trained Memory*

translated by Mary Carruthers

Thomas Bradwardine (b. ca. 1300) had a distinguished academic and clerical career before succumbing to the plague in 1349, just after he had been elected archbishop of Canterbury. His academic career was at Oxford, where he was a resident student and fellow, first of Balliol and then of Merton from 1321 to 1335, though in 1333, as a bachelor of theology, he was also made a canon of Lincoln Cathedral. He relinquished his fellowship at Merton in 1335 and joined the household of Richard de Bury, bishop of Durham (1281–1345), a great man of the time especially noted for his connections with early humanism. In September 1337 Bradwardine became chancellor of St. Paul's Cathedral; he was long a chaplain and confessor to the king, Edward III, whom he accompanied on his first military campaign in France in 1346. Though he is best known now for a series of academic works in Latin on logic, mathematics, and (especially) grace and free will, he must also have been called on frequently to preach, a consequence of his ecclesiastical offices. One of his sermons survives, a "victory sermon" preached in English before Edward III and his magnates, commemorating the victories in 1346 over both the French at the battle of Crécy (at which he was present with the king) on August 26 and the Scots at Neville's Cross, near Durham, on October 17. This sermon was then translated into Latin at the request of the papal legate, Cardinal Annibaldo de Ceccano. Bradwardine's mastery of such oratory might well have benefited from the memory techniques described in the treatise translated here, which serve the traditional function of rhetorical *memoria.*

The art of memory ascribed to him exists in three manuscript sources: the complete text, copied about 1435 by Robert Emyltoun, a scribe from Durham Abbey, in a book containing works of natural philosophy (Fitzwilliam Museum, Cambridge, MS McClean 169); a summary version from the late fifteenth century, appended to an English treatise on heraldry (now in British Library, London, MS Sloane 3744); and an isolated manuscript fragment containing the first two-thirds of the work, its readings agreeing closely with Emyltoun's version but dating from a somewhat earlier time (now in British Library, MS Harley 4166). Both Emyltoun and the scribe of the Sloane manuscript copy ascribed this text to Thomas Bradwardine. In addition an early sixteenth-century entry to a catalogue of the books at Syon

Monastery in Isleworth (London) records a copy of “Bradwardine, on the art of memory.” Until recently, however, scholars were reluctant to accept the attribution, perhaps because the contents seemed unworthy of such a great speculative theologian and prominent member of the so-called Merton College (Oxford) school of natural philosophers. Yet by the early fourteenth century it would not have been unusual for an academic theologian to be interested in memory training, since a century earlier Albertus Magnus and Thomas Aquinas had both connected the ancient rhetorical description of memory-craft in the *Rhetorica ad Herennium* to Aristotle’s psychology and ethics in their commentaries on his brief treatise *On Memory and Recollection.* Internal evidence clearly reveals the author to have been both learned and English.

Bradwardine’s art is notable for its detailed description of several techniques for fixing and recalling specific material through the use of graphically detailed, brilliantly colored, and vigorously animated mental images, grouped together in a succession of “pictures” or organized scenes, whose internal order recalls not just particular content but the relationship among its parts.These are truly “active images,” *imagines agentes* of the sort suggested in the Ciceronian treatise. Other aspects, in particular the classification of methods as “memory for things” or “memory for words” and the principle of first imagining sets of stable backgrounds and then filling them with changing groups of images, also seem in the Ciceronian tradition. Yet the overall impression is decidedly not the same as that of the antique rhetoric. Its indebtedness to the classical treatise is only skin deep, for the types of images and, even more important, the kinds of backgrounds described are taken from distinctly medieval visual conventions.Thus the flat, patterned backgrounds, like tiles and shingles, or tapestries, or a field changing its color and texture through the various seasons, are located in relation to one another like small rooms (*cellae*) in a rectangular grid, pages (as it were) of the book of memory. The active images placed in these locations inhabit a shallow stage, without much distance imagined between fore-and background. Moreover, their sources, as the treatise counsels several times, are the familiar paintings one might know from church interiors and manuscript books. As in the ancient advice, one imagines oneself gazing at the picture in each room from an optimal distance (often given in later treatises as about thirty feet away), but it is evident that one also must imagine oneself moving through these spaces, from one clearly demarcated location or “room” to the next.

The treatise is also notable for the way it addresses an audience specific to a time and place.The exemplary sentence given for the technique of “remembering words”– “Benedictus Dominus qui per

regem Anglie Berwicum fortissimum et totam Scotiam subiugavit"–is not a quotation from the poets (as in the *Rhetorica ad Herennium)or* from Scripture (as in most arts of preaching) but refers to a contemporary event, the English victory over the Scots at the second Battle of Berwick in July 1333. Several of the puns cited as examples are English and not Latin: "elbow," the Middle English dialect word, "cy" or "cow," "bear," and "wick." Although he thinks of his audience as being learned in many languages, vernacular-speaking, specifically English audiences are clearly uppermost in the author's mind. Thus it would seem that even though he expected them to read Latin (the language of the treatise), he also thought that most would by preference think in English.

SOURCE: Translated from Mary Carruthers, ed., "Thomas Bradwardine: 'De memoria artificiali adquirenda'," *Journal of Medieval Latin* 2 (1992): 25–43.

FURTHER READING: Discussions of the work include two essays by Beryl Rowland, "Bishop Bradwardine and the Artificial Memory," *Journal of the Warburg and Cour-tauld Institutes* 41 (1978): 307–12, and "Bishop Bradwardine, the Artificial Memory and the House of Fame," in *Chaucer at Albany,* ed. R. H. Robbins (New York: Burt Franklin, 1975), 41–62. I discuss the work at some length in *Book of Memory,* 130–37, and include a translation of it, 281–88, which I have updated and, I hope, improved here. Bradwardine's *Sermo epinicius* or "victory sermon," a Latin translation of the original English (unfortunately now missing its last leaves), was edited by H.A. Oberman and J. A.Weisheipl,"The *Sermo epinicius* Ascribed to Thomas Bradwardine (1346)," *Archives d'histoire doctrinale et littéraire du Moyen Âge* 25 (1958): 295–329.

– Mary Carruthers

For a trained memory, two things are necessary, that is, stable locations and also images for the material. The locations are like tablets on which we write, the images like the letters written on them. Moreover, the locations are permanent and fixed, whereas the images are at one moment inked on like letters and at another erased. The background places must be made before the images, and so they should be treated first. With regard to these background places, six matters should be distinguished, that is, size, shape, nature, number, order, and intervening distance. Each place should be moderate in size, that is, as great as one's visual power can comprehend in a single look, such as a little garden or the space of a small room. Indeed, memory is most powerfully affected by sensory impression, and especially by vision; therefore something appears to your memory just as it ordinarily appears to your vision.

The shape of a background should be like that of a rectangle. Concerning its nature, four things should be kept in mind: to wit, that the places should not be made so dark that they cannot be recovered easily or quickly from memory, nor made overly bright, for then they will interfere with the perception of the inscribed images. Second, your backgrounds should not be made in a crowded place, such as a church, the market, and so forth, because the images of the things crowding such places, which would occur in a crowd in your memory, may block other images of things that you intend to place there. So images should be put into regions deserted by men and empty. Third, you need to know that it is very useful if your places are real rather than only imagined or made up, for real places one can frequently inspect, and thus through repetition mentally confirm and secure their appearance. But one can work with places of one's own imagining, if one chooses.

Fourth, it is useful that contrasting backgrounds be formed (a principle that can also be demonstrated in connection with the number of the backgrounds). And so the first place might be like land unused and empty; the second like a green garden; the third like land having hay strewn [over it] or produce as at harvest time; the fourth as having stubble after the harvest has been gathered; the fifth like black ground after the stubble has been completely burned. Then make for yourself another five places higher up, if you want, such as a large, high couch; then a cupboard; then a table; then a tomb; then an altar. Then if you want to climb higher through another five places, first place the roof of a house made of wood, second of thatch, third of stone, fourth of red tile, and fifth [of lead].[1] Then if perhaps you want another five, the floors of the upper story, the first as though of earth, the second as though paved in green stone, the third paved with tile, the fourth spread with grasses or straw, and the fifth furnished with carpets or cloths. These four sets of five suffice for the placement of all the things to be remembered—or perhaps ten of them or somewhat fewer, unless a man should want to work unheard-of wonders.

It is particularly essential that your places have a continuous and straightforward order, so that your memory may find with dispatch all the inscribed images in their places easily, in forward order or backward. As for the interval of the backgrounds, two things should be decided, that is, its size and its nature. Let it be a moderate amount, which differentiates the places suitably; its nature, however, should be vacant, an empty void.

On the part of the person remembering, to the extent that he fully surveys his locations, three things are usefully attended to, that is, a distinct and secure holding in memory of these places, which is achieved by frequently inspecting them, or at least thinking about

them. Secondly, one should know at once, without having to calculate it, whatever number any of the places may have (in the whole order). Third, when one must use one of the locations for a memory task, one should imagine oneself positioned at an optimal distance from it, and from there one should view that single place.

These precepts should suffice us in regard to the places; now let us go on to the images, about which there are four considerations: size, nature, order, and number. Their size should be moderate, as was said above regarding the backgrounds. But their nature should be wondrous and intense, because such things are impressed in memory more deeply and are better retained. However, such things are for the most part not moderate but extreme, as something greatly beautiful or ugly, joyous or sad, worthy of respect or derision, a thing of great dignity or vileness, or maybe a person who has been injured with an enormous open wound flowing with a remarkable river of blood, or in some other way made ugly, having strange clothing and every bizarre em-bellishment,[2] the color also very brilliant and intense, such as intense, fiery red, and the whole color strongly altering its appearance. The whole image also should have some other quality such as movement, that thus it may be commended to memory more effectively than through tranquility or repose.

The ordering of images should be done in this way. First, for a subject matter that you want to remember, fashion for yourself an image of the size and nature just described, which you should place in the front of the first location. And if you can, make for the image you have fashioned a right hand and a left hand; and place the second image to the right of the first, so that with its right hand the image of the first matter holds, drags, or strikes the second image, or does something of this nature to it, or, oppositely, the second behaves in such a way to the first, so that their activity will be, as it were, a fastening together of their order in the series. And this method should be observed among all the images added in their turn in the same location. So, if you can, position the third as though riding around the second or doing something else around it, and to the third join the fourth, if you can; and on the left-hand side of the image attach the fifth, and to the fifth the sixth, if you can.

But if you do not want to gather so many images into one background, place the first image as I have indicated, the second to the right, and the third to the left, and then crossing over into the second background, in it and in any following ones you will place as many images as you like. But you should pay careful attention that the torso of an image comes before any of its other parts in the series of things to be remembered. And a hand or foot and its attachments that is closer to the front of the place comes before a more distant part and

its attachments.

As to the number of images, you should note that in one place three images can be placed suitably, or five or seven, but not many more, lest a superfluous multitude of them should blur their distinctiveness. With respect to the images, moreover, two things are helpful for the person remembering. First he should not make up his images for himself too speedily, but taking sufficient time he should impress every part of it by concentrating profoundly and steadily. The second thing is that he should with equal diligence commit to his memory not just the image itself, but also its order in relation to what immediately precedes and follows it, so that as he may wish he may recollect everything easily, going forward or backward.

But one achieves recollection in two ways: in an easy way, that is only by the subject matter (i.e., *memoria rerum);* in another difficult way, that is by the very words (i.e., *memoria verborum).* You need to have this twofold art of remembering. First, I will treat memory for the subject matter. Things to be remembered are of two sorts, some sensory and some abstract. Of the sensory things, some are visual and some not. Of those visible some are overly large, some overly small, and others average. I will speak in the first place about those that are average. Suppose that someone must memorize the twelve signs of the Zodiac, that is the Ram, the Bull, etc. So he might, if he wished to, make for himself in the front of the first location a very white ram standing up and rearing on his hind feet, with golden horns. And he might put a very red bull to the right of the ram, kicking the ram with his rear feet; standing erect, the ram with his right foot might kick the bull in his large and super swollen testicles, causing a copious effusion of blood. And by means of the testicles one will recall that it is a bull, not a castrated ox or a cow.

In a similar manner, a woman may be placed before the bull as though laboring in birth, and in her uterus as if ripped open from her breast may be figured coming forth two most beautiful twins, playing with a horrible, intensely red crab, which holds captive the hand of one of the little ones and thus compels him to weeping and such outward signs, the remaining child wondering yet nonetheless touching the crab in a childish way. Or the two twins might be placed there being born not of a woman but from the bull in a miraculous manner, so that the principle of economy of material may be observed. To the left of the ram a dreadful lion might be placed, who with open mouth and rearing on its legs attacks a virgin, beautifully adorned, tearing her garments. With its left foot the ram might inflict a wound to the lion's head. The virgin might hold in her right hand the scales, for which might be fashioned a balance-beam of silver with a cord of red silk, and weights of gold; on her left may be placed a

scorpion horribly stinging her so that her whole arm is swollen; and also she could strive to balance the scorpion in the aforementioned scales.

Then in the front of the second location might be placed an archer with suitable equipment, holding an astounding bow fully extended, in which might be an even more astounding arrow, and he could strive to shoot arrows at a goat standing erect slightly farther back in the same location, remarkably hairy and shaggy, having a weird-looking horn and a golden, luxuriant beard. And he might hold in his right foot a most remarkable jug full of water, in his left foot unusual fishes, onto which he pours crystal-clear water from the water-vessel. And if it should be necessary to remember more things, one may place their images in the following locations in a similar manner. Having done so, the person remembering is able to recite these things in whatever order he may want, forward or backward.

If however you wish to recall things of extreme size, whether large or small, of the sort such as the world, an army, a city, a millet seed, an iota, or the smallest of worms, one makes average-sized images of them, perhaps of the sort that are depicted by manuscript decorators, or one can acquire the memory of such things through another thing that is opposite, similar, or in some other way analogous to them. If you want to recall sensory phenomena that are not visible, as for instance sweetness, place someone feeding himself with something sweet, like sugar, honey, milk, or happily tasting something else of this sort. But for bitterness, place someone feeding himself on something bitter and immediately vomiting it up in a disgusting manner. For foulness, place something smelling bad in the presence of someone else, who pinches his nostrils with one hand as though against the bad odor and with the other gestures contemptuously toward this thing. For things entirely abstract, such as are God, an angel, infinite space, and such matters, place an image as the painters make it, or you can secure its recollection by means of something that is contrary to it, similar, or analogous in another manner.

So much for memory-of-things, now memory-of-words demands its time; concerning which I propose this particular technique for remembering syllables presented to you, in order to commit a syllable artificially to memory. The person remembering should have for himself a ready-made image for any syllable always stored away by rote, which whenever he wants he is able freely to use, and he may do this in the following manner. He should consider and write down for himself the whole possible number of syllables, and should also consider the same number of easily visualizable things known to him, whose names in Latin or in his own language or in another language known readily to him may start with those syllables or coincide

completely with them, which is even more useful. And because among diverse languages, and even among different speakers of the same language, frequently several different names for various things are used, and occur more readily to memory, it is not really possible to give specific advice that applies to all people. But each should take pains to adapt this advice for himself to his own way of remembering, and most prudently conserve his version without variation.

When, therefore, one wants to remember a certain syllable, one should place something whose name begins with that syllable, or may be totally coincident with it, in a particular location, as I demonstrated earlier, by means of which one may immediately recall the name of that thing whose first syllable it epitomizes, and one should work in a similar way with regard to any syllable. But whoever might wish to shorten this labor should do this using only the one language known to him whose instant recollection seems the most useful to him; though in any single language there are fewer syllables than all those which might be needed. But certainly, the principle behind this task of remembering syllables is extremely economical and very useful. Every syllable is a vowel or is composed of a vowel and a consonant. For the five vowels make for yourself five images in this way: for "A" make for yourself gold [aurum], an unleavened wafer [azimus], or Adam covering his naked genitals with leaves, or something else of this sort whose name begins with A, or nouns of the same sort you might know in a language other than Latin that occurs to you more readily. For "E" place Eve, naked, hiding [her prominent breasts with her long hair and][3] her genitals with green leaves, or something else of the sort I indicated earlier. And for the remaining vowels you should make for yourself other images in a similar fashion.

For the shortest composite syllables, that is, ones constituted only from one vowel and a consonant, you should work in exactly the same way. So, for the "ab" syllable, imagine to yourself an abbot you know, dressed appropriately; for "ba" a crossbowman *[balisterius]* with a belt and the rest of the things that encumber him, and do the same thing for other syllables of this kind. If however you should wish to work more economically, let an upright abbot indicate "ab" to you, an upside-down one "ba"; an upright crossbowman "ba," an upside-down one "ab." And thus you can use only one image for pairs of syllables, according to its various positions.

For syllables of three letters, with two consonants at the extremes and a vowel in the middle, the technique is the same in every respect. So, for the syllable "bar" you might fashion Bartholomew, flayed; for "rab," Rahab the infamous harlot, or for this pair of syllables you might place only just the one or the other according to one or the other likeness (upside-down or right-side-up), as I told you.

If however you wish to make the technique still easier, fashion for yourself images for all the consonants, or at least for those which occur often before or after syllables of two letters; of this sort are “R” and “L” and those like them–there are a few exceptions. For the “L” consonant, therefore, if you are English, you can imagine for yourself an elbow, which accords with that consonant both in name and shape. So, if you want to recall “bal,” you might locate your image of the “ba” syllable, an upside-down abbot (or an upright crossbowman, if you’d rather use that) and he might hold the elbow by its middle sideways in his mouth (or in the other image it might be attached to the uppermost part of the crossbowman) in order to signify that the “ba” syllable must be followed by an “L.” And the “lab” syllable may be signified by the same image in the contrary situation. But for remembering the syllable “bla,” position a crossbowman holding his elbow in his hand at his waist, if you like, or under his belt, which should signify to you that “L” ought to be in the middle of the “ba” syllable, and in this way it will figure for you the syllable “bla.” There are other syllables of more letters, and for them a skillful person can readily enough extend this technique. Let these examples, however, suffice for the technique of remembering syllables.

Now let us consider how to remember words, concerning which a technique of the same sort may be proposed for the remembering of a word that has been put to you to be artificially recalled. This technique follows from the previous one. All words have syllables in serial order, and so when a memory of the syllables has been secured, a memory of the words is also achieved. Another method however is shorter and handier, although more prone to cause error. This involves mixing memory for the things themselves with memory of their names.[4] If you should need to recall a certain word which signifies to you something for which you can make an image, place for yourself the image of that thing itself instead of using the special memory technique for a word. And if an image of a thing known to you should present itself which would also serve for a word you propose to remember, if possible take the name of something which, in two or more of its syllables, sounds like that word. If however you can not find one, at least find something whose name in its first syllable sounds like your word, which you can do according to the previous technique; and I should add further that, just as it is a fact that one can recollect a whole from its parts and the reverse, and sometimes the whole of a word from just its beginning, and one of two things that are alike by means of the other, or one of two contraries from the other, so also one can recall anything from something added onto it or in any way pertaining to it.

These matters having thus been disposed of, it remains to speak

about how to remember sentences; the following technique may be proposed in order to recite any sentence presented to you. This one follows from the second one (concerning remembering words). "Benedictus Dominus qui per regem Anglie Berwicum fortissimum et totam Scotiam subiugavit." [Blessed be the Lord who by means of the English king subjugated most mighty Berwick and all Scotland.] For the first phrase, if you know someone named Benedict, or even Saint Benedict the Abbot, place him at the front of the first location; and if you have a lord you know, whom you just call "dominus," not using his actual name, place him injured in the face, pulled by the hair, mangled, or in some way touched by the right hand of Benedict; or you might place there Saint Dominic or Emperor Domitian or someone known to you called by a similar name. For the third word and the fourth, which are monosyllables, proceed according to the technique for syllables; or for "qui" place a very white cow with very large, very red teats, erect upon her hind legs, whose right front foot Benedict might hold with his left hand as though dancing with her. For indeed, a cow is called "qui" in northern English.[5] In addition the cow, in a strange manner, holds in her left front foot a partridge [*perdix],* which will give the word "per" to your memory.

Then in the foreground of the second location you should bring together a king, resplendent in a crown and the other tokens of royal majesty, or if you should know well any king, or someone called or surnamed King, or one who in some game was a king, place him there, and let him hold in his right hand an eel *[anguilla]* wriggling about greatly, which will give you "England" *[Anglia]*. And in his left hand he might hold a bear by the tail or foot, which in English would signify the two first syllables of the word "Berwicum," and consequently the whole.[6] From the other side of the bear might come mighty Samson or a lion, and strike that bear; and so this will figure to you "most mighty" [*fortissimum]*. Finally, the rest of this example could be fashioned in a third location in a similar manner, by placing there someone named Thomas, with his right hand subduing like a beast either a Scot or someone so named or surnamed, or someone whom you know to have campaigned vigorously in Scotland; and placing in his left hand an impressive yoke. This technique is for remembering material presented audibly, but certainly for remembering visual matter, such as recalling written things, one may make use of a similar method.

Now my pen must turn to remembering numbers. So, for "one" you might form a unicorn; for "two," Moses with his two horns, perhaps, or the two tablets; for "three," a tripod, or the Trinity as it is usually painted in churches; for "four," one of Ezekiel's creatures having four faces; for "five," Christ crucified with his five wounds; for "six," an

angel with six wings; for “seven,” the Lamb which has seven horns or eyes; for “eight” [octo], the emperor Octovian;[7] for “nine,” an angel clothed in a very white garment having nine very red transverse stripes, three above, three below, and three in the middle, which may signify to you the nine orders of angels, or this: a man with his thumb cut off, binding his wound with the other hand–for then indeed only nine fingers will remain; for “ten,” may be placed a zero or the Greek letter “chi”;[8] and calculate the rest according to your skill in algorism.[9] But one who has learned the notary art will attain the highest perfection of this craft.

Here ends the treatise of Master Thomas Bradwardine on acquiring a trained memory. Thanks be to God, says R[obert] Emylton.

1. Phrase missing in MS McClean 169; supplied from MS Harley 4166.

2. “omnis mirabilis apparatus”: memory images could be specially tagged by means of distinctive, often weird accouterments, such as the curious horn and golden beard marking the image of Capricorn, discussed later on.

3. Additional material, in brackets, from the variant text in MS Harley 4166.

4. That is, sometimes using an image to recall the object itself, and sometimes using it instead as a visual pun: for example, using an image of a bear sometimes to recall an actual bear, and sometimes to recall the syllable “ber-,” as in the word “Ber-wick,” used in the exemplary sentence Bradwardine demonstrates later on.

5. Bradwardine refers to a dialect form of the word “cows,” which was “cy” (pronounced like “key”) in the north of England.

6. Middle English “bere” (bear) and “wike” (wick), the latter probably suggested by the shape of a bear’s tail. Bradwardine specifies that the first *two* syllables of “Berwicum” are recalled by the image. The alternative suggestion to use the bear’s foot is less understandable as punning visually on English “wick” — perhaps this was an additional gloss by a later redactor who didn’t quite get the original picture.

7. This is an English variant form of the name Octavian, used for example in Chaucer’s *Book of the Duchess*, line 368.

8. The Arabic numeral from which we derive the word “zero” or “cipher” signified io, and was written O. Though chi is the twenty-second letter of the Greek alphabet (and was commonly used by the Greeks to indicate the number 600), it looked like the Roman numeral X, signifying 10. The visual pun Bradwardine suggests was fairly common in Christian writings; it occurs, for example in Hugh of St. Victor's *Constructing Noah's Ark* (Selection 2).

9. The algorism is the system of base-10 numerical calculation using Arabic numbers that we still use.

10. John of Metz, *The Tower of Wisdom*

Lucy Freeman Sandler

Building the Tower of Wisdom

"Tower of Wisdom. Behold the Mirror of Theology made by Master John of Metz" is the caption of a medieval pictorial diagram in the shape of a building whose components are labeled with moral injunctions and the names of the Virtues. The Tower of Wisdom is one in a collection of diagrams that was put together in the last quarter of the thirteenth century by John of Metz, a Franciscan disciple of St. Bonaventura who was active as a preacher in Paris. Sometimes also called an "Orchard of Solace" or an "Orchard of the Faithful Soul," the collection survives in more than thirty manuscripts, from the end of the thirteenth to the mid-fifteenth century, and the Tower of Wisdom is in most of them. Indeed, there is evidence that the compiler intended to employ the title *Mirror of Theology,* which usually appears on the Tower of Wisdom, as the name of the whole group.

Apart from the Tower of Wisdom, the diagrams of the *Mirror of Theology* take the form of trees (including the one described in St. Bonaventura's treatise called the *Arbor vitae* or *Tree of Life),* wheels, columnar tables, and the human figure, all structures that can be visually compartmentalized, following natural divisions such as branches and leaves, or spokes and rings, so as to provide enclosed areas for the placement of verbal (or sometimes pictorial) material to be learned and remembered. Such diagrams also set out visually in a single field the conceptual relationships between the various components, and the relationship of the parts to the whole, echoing the pattern of the widely circulated early medieval schema known as the Microcosmic-Macrocosmic Harmony, in which a circle labeled Man, Year, and World is set at the center of a larger outer ring inscribed with the names of the four elements (earth, air, water, and fire) and the four qualities (hot, cold, dry, wet), the whole divided into quadrants labeled with the names of the four seasons and the four humors (choleric, phlegmatic, melancholic, and sanguine).

The Structure of the Tower of Wisdom

Metaphorical buildings and building metaphors were common in medieval writings, particularly because there were biblical precedents.

“Wisdom hath built herself a house, she hath hewn her out seven pillars” (Prov. 9:1); “For thou hast been my hope; a tower of strength against the face of the enemy” (Ps. 60: 4); “Thy neck is as the tower of David, which is built with bulwarks” (Sg. 4: 4). Structures described nonmetaphorically in the Old Testament, such as the Temple of Solomon (1 Kings 6) were treated metaphorically in the New Testament, as for instance in Paul’s letter to the Ephesians (Eph. 2: 19–22), “Now therefore you are no more strangers and foreigners; but you are fellow citizens with the saints, and the domestics of God, Built upon the foundation of the apostles and prophets, Jesus Christ himself being the chief corner stone: In whom all the building, being framed together, groweth up into an holy temple in the Lord. In whom you also are built together into an habitation of God in the Spirit.”

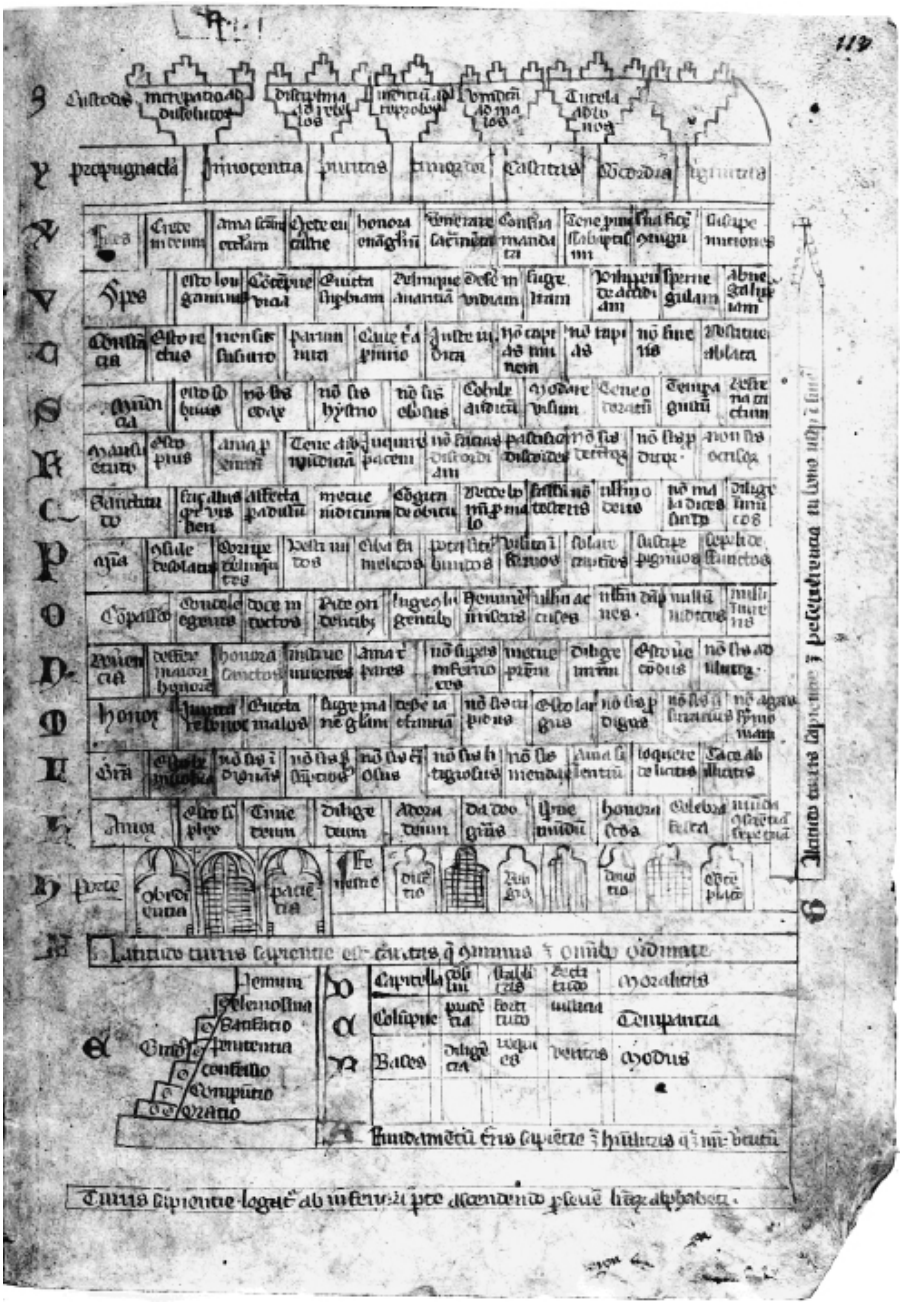


Figure 10.1. “The Tower of Wisdom.” Munich, Bayerische Staatsbibliothek CLM 16104a, fol. 113r. Photo: Bayerische Staatsbibliothek, Munich.

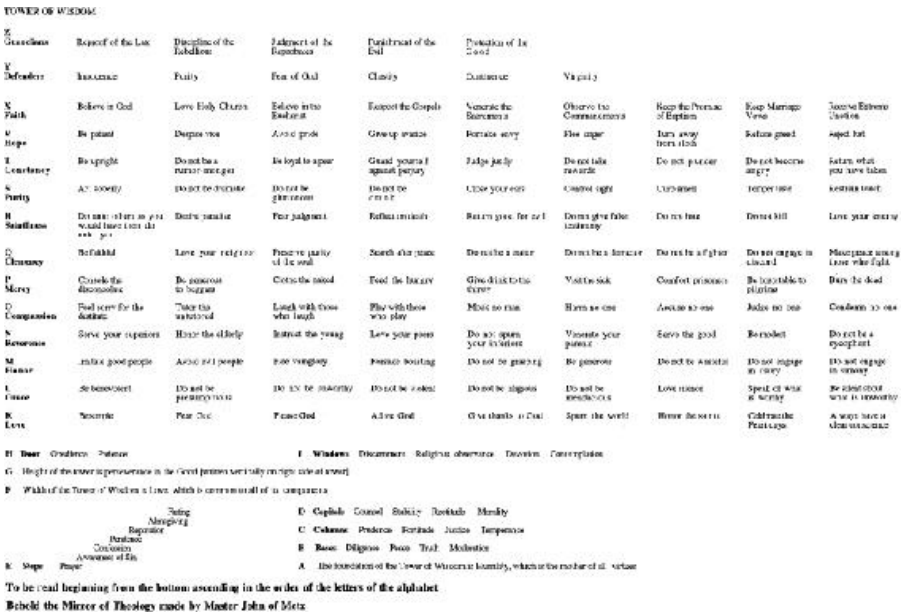


Figure 10.2. Translation of the Latin inscriptions in “The Tower of Wisdom.” Prepared by Lucy Freeman Sandler.

Metaphorical structures in the Holy Scriptures were explicated extensively by medieval theologians, who often added descriptive detail, in the process constructing complex allegories. Hugh of St. Victor interpreted the structural components of the Temple of Solomon as virtues:“Its length is perseverance in good works ... its breadth is Love ... its height is Hope of deserving the reward of eternal life ... the series of stones is like the advance of the virtues, which is directed upward ... [the walls] rise on the foundation of Humility.” In the *Speculum ecclesiae* (*Mirror of the Church)* of Honorius of Autun (ca. 1080–ca. 1137), the Old Testament “House of Wisdom” is interpreted as Christ who has built his Church, the seven pillars are the seven biblical books that support Christian doctrine (John, Psalms, Proverbs, Ecclesiastes,Canticles,Wisdom,and Ecclesiasticus),and the columns were put in place by the seven gifts of the Holy Spirit.

Such allegorical edifices were occasionally realized in pictorial or diagrammatic images, as for example the seven-columned towered structure illustrating the anonymous treatise of ca. 1140, *Speculum virginum* (*Mirror of Virgins).* In the *Mirror of Virgins* image the building encloses a Tree of Jesse (a genealogical tree tracing the descent of the Virgin Mary from Jesse, the father of King David) whose leaves are inscribed with the names of the seven gifts of the Holy Spirit and six further sets of sevens, including the petitions of the Lord’s Prayer, the Virtues, and the Beatitudes. Though related to Honorius’s literary allegory, the pictorial image has additional features, which in total

constitute a complex set of equivalencies between Wisdom, Christ and the Virgin, and the “Septenaries.”

John of Metz’s thirteenth-century Tower of Wisdom is an autonomous image neither associated with a specific text nor the visual embodiment in every detail of a metaphor in a scriptural exegesis, much as the name of the structure (*Turris sapientiae)* and the attribution of moral meanings to its physical components—steps, columns, doors, ramparts, etc.—use metaphors familiar from the examples already cited. Rather than elucidating or augmenting a written work, the Tower of Wisdom is itself sometimes accompanied by a verbal explanation of its purpose, its construction, and its access and ascent (see below).The purpose is moral instruction for salvation of the faithful, the construction is “in the manner of a material tower,” and the access and ascent are upward through the Virtues, in the order of the letters of the alphabet.

Although some metaphorical buildings are relatively simple structures, for instance, the mid-thirteenth-century *Templum Dei* (*Temple of God*) of Robert Grosseteste (ca. 1168–1253), which consists of only foundation, walls, and roof, the design of the Tower of Wisdom is complex. Specific meanings are assigned to its breadth and height and to its foundation, stairs, columns with their bases and capitals, door, windows, and walls with their building blocks, as well as to the defenders and guardians in its upper parts. In fact, the design of the structure, which consists of twenty-three elements, was based on the number of letters in the Latin alphabet, so that twenty-three components of the building are labeled, and in the case of the twelve courses of the stone wall (K-X), each individual stone has a meaning as well.

All in all, the Tower of Wisdom has 131 named units.These are presented on a single plane, that is, from a completely flat and frontal point of view, with no illusion of the third dimension — in short, diagrammatically.The design of the structural features is Gothic, familiar from the kind of formidable tower structures that survive as the city halls of Florence and Venice, with arcaded ground floors leading to courtyards with flights of stairs, heavy stone walls, crenelated ramparts, and arched doors and windows. In addition to these fundamental components, a number of examples of the Tower of Wisdom are “inhabited” by human figures, personifications of the Virtues for the columns, doors, and windows, or defenders of the ramparts.

The Moral Contents of the Tower of Wisdom

Moral teaching was the subject of a vast body of medieval writing:

scriptural exegesis, scholarly treatises, popular handbooks both in Latin and in the vernacular, handbooks for priests and preachers, sermons, and allegorized romances. Definition and clarification of the countless ways in which humankind could fall into sin and the equal number of remedies via virtuous conduct and penitence were a medieval preoccupation, hence the many texts that order the virtues and vices numerically and categorize them hierarchically. Various numbered sets of virtues and vices were developed during the Middle Ages, of which the most common are the Four Cardinal Virtues (Prudence, Justice, Temperance, and Fortitude) and Three Theological Virtues (Faith, Hope, and Charity), with Humility as their root, and the Seven Deadly Sins (Gluttony, Anger, Avarice, Sloth, Vainglory, Envy, and Lust), rooted in Pride. Often each of these was conceived as having subsidiaries or dependents, sometimes seven or more for each of the seven virtues and the seven vices, amounting to nearly one hundred in all.

Such a large number of vices and virtues could be organized in "ordinary" textual form, which provided the opportunity for exposition, introduction of appropriate biblical and scholarly citations, and narrative examples, but was especially conducive to presentation in diagrammatic form, using lists, tree structures, and circles divided radially and concentrically. In the most vivid diagrams the overall form is figural, as in the Tree of Virtues and the Tree of Vices, both with labeled fruit-bearing leafy branches and roots; the Cherub, with wings and feathers (as in Selection 4); and the Tower of Wisdom. All these are found in John of Metz's *Mirror of Theology.*

The Tower of Wisdom is a comprehensive moral structure. As in the Tree of Virtues, whose root is Humility, so also in the Tower of Wisdom, whose foundation, Humility (A), is "the mother of the virtues." The breadth of the tower (F) is Love *(caritas),* "which is common to all its components." Love (the *Charity* of the Holy Scriptures) is the greatest of all the virtues (1 Cor. 13: 13). Indeed, in the Tree of Virtues Love, at the apex of the tree, has ten rather than the usual seven subsidiaries. In the Tower of Wisdom Faith and Hope, the two other Theological Virtues, are placed at the very top of the wall (X and V), while the Cardinal Virtues, each with two subsidiaries, are the columns (C), bases (B) and capitals (D) immediately above the foundation. The Theological Virtues of Faith and Hope are literally higher than the Cardinal Virtues, as they are in the Tree of Virtues.

The virtues assigned to the doors (H), Obedience and Patience, and to the windows (I), Discernment, Religious observance, Devotion, and Contemplation, are associated with the clerical state, especially Obedience, a major monastic obligation. Indeed, in one early fourteenth-century Tower of Wisdom, these virtues are exemplified

pictorially by figures of an archbishop, two clerical scholars, a Benedictine monk, a Dominican friar, and a Franciscan friar. The virtues that defend the tower, “six pure virtues leading the others,” are attributes particularly characteristic of chaste women, whether in religion or in secular society. In another early fourteenth-century Tower of Wisdom they are personified as crowned women in contemporary dress.

The ten virtues of the wall (K-T) below Hope and Faith (V–X) compose a list that differs in number and order from standard series. Although the instructions are to ascend upward in alphabetical order, a hierarchical sequence is neither implicit nor explicit, except at the top with Hope and Faith. As a set of twelve these are the virtues “from which the other stones [of each course] follow in order.” They are in fact positioned on the far left of the wall, in the places they would occupy if they were at the beginning of a sentence. Now, however, as in sentences, these nominatives are followed by verbs, since each stone to the right of the name of the virtue is inscribed with an injunction for action, in the imperative. Following Mercy (P), for example, are “Console the disconsolate,” “Be generous to beggars,” “Clothe the naked,” “Feed the hungry,” “Give drinkto the thirsty,” “Visit the sick,” “Comfort prisoners,” “Be hospitable to pilgrims,” and “Bury the dead,” an extended list of a standard series of virtuous deeds known as the Seven Works of Mercy.

Among the moral injunctions are a fair number that constitute common series. Purity (S), for instance, is followed by a series of “Do nots” relating to restraining the Five Senses, hearing, sight, smell, taste, and touch, prefaced by “Act soberly,” “Do not be dramatic,” “Do not be gluttonous,” and “Do not be drunk.” Similarly, Hope (V) is followed by strictures against the Seven Deadly Sins of Pride, Avarice, Envy, Anger, Sloth, Greed, and Lust, with the additions “Be patient,” and “Avoid vice” to make up the full complement of nine stones in this course of the wall. Faith (X) includes the four of the Seven Sacraments that concern the laity, the Eucharist, Baptism, Marriage, and Extreme Unction, augmented by injunctions to “Believe in God,” “Love Holy Church,” “Respect the Gospels,” “Venerate the Gospels,” and “Observe the Commandments.”

Although in many cases the verbs enjoining deeds, acts, and beliefs are either “Be” or “Do not be,” a wide range of other verbs of command reinforces the sense that moral dangers are infinite. Constantly recurring in one guise after another, evil requires a multitude of acts to be suppressed, hence such sequences as “Despise,” “Avoid,” “Give up,” “Forsake,” “Flee,” “Turn away from,” “Refuse,” and “Reject” (V, Hope). Positive commands are equally varied and employed in equally attention-getting sequences. Following Love (K) for example is a series

of four successive commands with respect to God, “Fear God,” “Adore God,” “Please God,” and “Give thanks to God.” There are thus as many ways of doing good as of avoiding evil.

On the other hand, repetition is also used frequently, as when a varied series of verbs is combined with the same noun, as above, or, negatively, as in the sequence following Compassion (O), “Mock no man,” “Harm no one,” “Accuse no one,” “Judge no one,” and “Condemn no one.” On the whole, however, positive and negative commands are intermixed, and their objects may also alternate within any one stone course from repetitive to varied.The material to be learned is thus more heterogeneous in form than the regular scheme of compartmentalization at first suggests.

As John of Metz emphasized in his explanation (see below), the Tower of Wisdom is to be ascended. It is to be read from bottom to top, its height (G) is perseverance in the good, an ongoing process of striving upward, and its seven steps are the seven successive steps a Christian must take to receive absolution, namely, Prayer, Awareness of sin, Confession, Penitence, Reparation, Almsgiving, and Fasting. At the top of the tower are its custodians, who have the power to reprove, then discipline, then judge, and finally, to punish sinners, and equally, to protect the good, who are the faithful of the Church Militant. These are the “experts” who, having climbed to the top of the Tower of Wisdom “by increase of virtues,” will “rejoice forever to reach the joy of the reward.”

The Use and Users of the Tower of Wisdom

Who are the faithful of the Church for whom John of Metz built the Tower of Wisdom? The audience for the diagram, and the other diagrams that constitute the *Mirror of Theology,* can be determined in part from the manuscript contexts in which the collection is found. Almost never is the *Mirror of Theology* a freestanding volume; the usual nine to twelve diagrams together with their explanatory texts would hardly fill a single medieval parchment or paper gathering (fascicule). Consequently the collection is usually bound with other material, sometimes itself miscellaneous or composite, and often “workmanlike” in form, devoid of decoration and showing evidence of heavy use.

A couple of copies of the *Mirror of Theology* are found on the front or back of rolls rather than on the pages of codices.These rolls contain the genealogy of Christ compiled by Peter of Poitiers in the twelfth century. The same text is also paired with the *Mirror of Theology* in one codex, a Bible written in England in the thirteenth century, into which these components were inserted in the fifteenth century. The

context of such manuscripts is academic. The Bible, for instance, is of the kind used by university students; rolls of the genealogy of Christ seem to have been hung up in university classrooms, where they served as teaching charts; and John of Metz, the compiler of the *Mirror of Theology,* was himself probably a Master of Theology.

However, most books containing the *Mirror of Theology* are miscellanies whose lengthier components are pastoral handbooks for the clergy. Such books proliferated rapidly after the Church ordered parish priests to instruct the laity four times a year in the elements of Christian faith, especially the Creed or Twelve Articles of Faith, the Ten Commandments, the Lord's Prayer, the Seven Virtues and Vices, the Seven Works of Mercy, and the Seven Sacraments.The *Mirror of Theology* would have served as a diagrammatic counterpart of the expositions of theology that priests needed to prepare themselves for the teaching of the untutored.

Finally, quite a few copies of the *Mirror of Theology* are in volumes used for personal reading, devotion, and meditation. These are in general more luxurious books, some employing expensive gold and colors for the diagrams, some with contents illustrated profusely throughout.The various texts range from the Psalter to the Apocalypse, the *Biblia pauperum* (Bible of the Poor), and the *Speculum humanae salvationis* (*Mirror of Human Salvation);* among them are thick anthologies of spiritual readings and slim picture books that include some texts in the vernacular.

For its readers, the Tower of Wisdom could be a mnemonic tool in that its "wisdom" is set out in a way that facilitates absorption into memory. Indeed, the tower form with its boxlike stones is the very image of the mental structures of medieval mnemotechnique, with their rooms, or "places" (*loci*) containing "matter" *(res)* to be learned. John of Metz himself used the word *loci* for the stones of his tower. Employing the mnemotechnic of arranging material to be learned in hierarchical order, he also emphasized that the normal orderly procedures for constructing a material tower parallel the process of reading the image of the tower; and this bottom-to-top progression is reinforced by the alphabetical order of the letters of the alphabet that identify the various components. In the words of Mary Carruthers (*Book of Memory,* 253), the alphabetically arranged building blocks thus "serve as 'fixes' for memory storage," and the building is an "informational schematic" that functions as a teaching tool, setting out what is worth learning and the sequence in which it should be studied. The users of this tool could have been students themselves needing a basic diagram of moral theology, and equally those who would in turn need to teach this material to others.

The Tower of Wisdom does not fulfill its entire purpose when the

reader has reached the top of the ramparts by reading, even by repeated reading.The moral injunctions of the building blocks demand action, and for this the reader must first absorb the 108 commands inscribed on the stones into the memory in order first to learn how to behave and then to behave accordingly. Since the possibilities of virtuous behavior are multifold and the dangers of sinful behavior are without limit, successful incorporation of the *res* of the Tower of Wisdom into memory (by those who have become "experts") should stimulate the mind to identify and strengthen the will to perform virtuous acts (and avoid sinful acts) beyond those spelled out in the diagram.

Surely, however, not all the users of the Tower of Wisdom were up to the task of incorporating its complex and heterogeneous injunctions into the memory. Some volumes containing elaborate images of the Tower of Wisdom and the other diagrams of the *Mirror of Theology* were clearly valuable personal possessions, available for reading and rereading.They would have been valued, as Fritz Saxl recognized, precisely because of their "wealth of wisdom ... which slowly reveals itself to the patient reader.... Each picture ... must be pondered again and again." The goal was not memorization *ad verbum* but rather the kind of meditative reading *ad rem,* according to subject matter, that would lead to mental incorporation or recollection, and in turn to the virtuous conduct through which "those who have entered [the Tower of Wisdom] may succeed in overcoming the fiery scheme of the devil and that unburned they may rise to God in the highest."

About the Drawing

The illustration used here reproduces the Tower of Wisdom from a little-known copy of the *Mirror of Theology* executed ca. 1300, perhaps in France, and inserted at the end of a volume containing an unrelated early thirteenth-century Ordinal and Consuetudinary (regulations for the conduct of religious life and rituals) of the Canons of the Church of St. Nicholas, Passau, Germany (Munich, Bavarian State Library cod. lat. 16104A). Simply but clearly drawn and inscribed, the diagram is one of the earliest extant examples of the Tower of Wisdom. In addition to the Tower of Wisdom (fol. 113r), the Munich manuscript includes eleven further moral and spiritual diagrams (fols. 113v–118v).

SOURCE: John of Metz, *Explanation of the Tower of Wisdom* (*Turris sapientiae),* translated from the Howard Psalter (London, British Library MS Arundel 83–1), fol. 4v.

FURTHER READING: See Carruthers, *Book of Memory,* Evans, "Illustrated Fragments," and Sandler, *Psalter of Robert de Lisle* in the General Bibliography. In addition, the following works dealing with

specific types of images and their uses are particularly helpful.

Bober, Harry. “An Illustrated School-Book of Bede’s ‘De Natura Rerum’.” *Journal of the Walters Art Gallery* 19–20 (1956–57): 65–97.

———. “In Principio, Creation Before Time.” In *Essays in Honor of Erwin Panofsky,* ed. Millard Meiss. New York University Press, 1961. 1: 13–28.

Cornelius, Roberta D. “The Figurative Castle, A Study in the Mediaeval Allegory of the Edifice with Especial Reference to Religious Writings,” PhD dissertation, Bryn Mawr College, 1930.

Evans, Michael. “The Geometry of the Mind.” *Architectural Association Quarterly* 12 (1980): 32–55.

Friedman, John B. “Les images mnémotechniques dans les manuscrits de l’époque gothique.” In Roy and Zumthor, eds., *Jeux de mémoire,* 169–85.

Greenhill, Eleanor. *Die geistigen Voraussetzungen der Bilderreihe des Speculum virginum.* Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters 39. Munich: Aschendorff, 1962.

Katzenellenbogen, Adolf. *Allegories of the Virtues and Vices in Mediaeval Art.* London: Warburg Institute, 1939.

Owst, G. W. *Literature and Pulpit in Medieval England.* Cambridge: Cambridge University Press, 1933.

Saxl, Fritz. “A Spiritual Encyclopedia of the Late Middle Ages.” *Journal of the Warburg and Courtauld Institutes* 5 (1942): 82–134.

Tuve, Rosemond. *Allegorical Imagery: Some Medieval Books and Their Posterity.* Princeton, N.J.: Princeton University Press, 1966.

Wirth, Karl-August. “Von mittelalterlichen Bildern und Lehrfiguren im Dienste der Schule und des Unterrichts.” In *Studien zum städtischen Bildungswesen des späten Mittelalters und der frühen Neuzeit,* ed. Bernd Moeller, Hans Patze, and Karl Stackmann. Abhandlungen der Akademie der Wissenschaften in Göttingen, Philologische-Historische Klasse ser. 3, no. 137. Göttingen: Vandenhoeck und Ruprecht, 1983. 256–370.

Texts and translations of some of the works mentioned in this essay are

Bonaventura. *Bonaventure: The Soul’s Journey into God; The Tree of Life; The Life of* St. Francis. Ed. and trans. Ewert Cousins. New York: Paulist Press, 1978.

Grosseteste, Robert. *Templum dei.* Ed. Joseph Goering and F. A. C. Mantello. Toronto: University of Toronto Press, 1984.

John of Metz, *Explanation of the Tower of Wisdom*

There are three kinds of faithful in the Church Militant, who hope by increase of virtues to attain triumph joyfully: the beginners, the intermediates, and the experts. And so that beginners approaching the door of the Virtues may be encouraged to bear the newly accepted yoke of the Lord manfully, that intermediates, within the doorway of the Virtues, may be strengthened to overcome the assaults of the world, the flesh, and the devil sagaciously, and that experts, in passing through the door of the Virtues, may rejoice forever to reach the joy of the reward, Master John of Metz is building a Tower of Wisdom, in which those who have entered may succeed in overcoming the fiery scheme of the devil and that unburned they may rise to God in the highest.

The Tower of Wisdom is built in the manner of a material tower, resting on four strong columns with capitals and bases, having stairs, breadth, height, doors, windows, a wall constructed of square-cut stones, defenders and guardians. And as a material tower is begun from the foundation, so is reading this moral tower begun by ascending from the bottom in alphabetical order through a series of letters with their corresponding places, in this way: The foundation of the Tower of Wisdom is humility, of which Gregory says, “He who collects all the virtues, except humility, is like him who carries dust in the wind.” He also says “Humility implants the virtues and guards those implanted.” On this foundation rest four column-bearing bases. The columns are the four Cardinal Virtues, of which the Psalmist says, “Await the Lord with prudence, act manfully with fortitude, comfort your heart with justice, and support the Lord with temperance.” Next come the steps, which are prayer, etc., as when a sinner in returning to the Lord first prays and through prayer is given heartfelt remorse; through remorse the voice for confession; through confession the performance of penitence; through penitence the work of reparation, which is done through almsgiving and fasting. Next is the breadth, which is love, of which in the Gospels it says, “God is love,” etc. Next is the height, which is perseverance, of which the Evangelist says, “He who perseveres to the end will be saved.” Next are the doors, of which Bernard says, “So great are the virtues of obedience and patience that without these two the Son of God was not able to regain his kingdom.” Next are the windows, which are discernment, the charioteer of the virtues; religious observance, the master; devotion, the attendant; contemplation, the nurse of the virtues. Next is the wall, which has twelve rectangular stones from which the other stones follow in order. Above the wall are the defenders, that is, six pure virtues leading the others. Next are five custodians: first, reproof of the lax, for if someone becomes lax in observance of the virtues, he should be reproved verbally; second, discipline of rebels, for if the lax

person becomes rebellious he should be disciplined; third, judgment of the reprobates, for if an undisciplined person becomes a reprobate he should be judged, that is, excommunicated; fourth, punishment of the evil, for if a reprobate, disregarding fear of God, becomes evil, he should receive punishment for evil, as the wise counsel of Paul, who says, “I believe that the evil man surrenders to Satan for the destruction of the flesh that his spirit may be saved in the day of the Lord”; last, protection for the good, for punishment having been given to the evil the good are at peace. Truly the judges are appointed for the punishment of the evil and the protection of the good.

11. Jacobus Publicius, *The Art of Memory*

translated by Henry Bayerle

Jacobus Publicius, self-identified as "of Florence," was the author of a handbook of rhetoric containing the first general *ars memoriae* to be printed. Jacobus's rhetorical manual became very well known in the last two decades of the fifteenth century, but its *ars memoriae* was extracted and circulated independently as well. A number of manuscript copies of it also survive, most made from the printed editions. One such is British Library MS. Add. 28805, initially from Durham, in which Jacobus's memory art was copied into an earlier compendium of rhetorical teaching (not Jacobus's) by an English monk and librarian from Durham Priory, Thomas Swalwell (c. 1463–1539).

Jacobus's *ars memorativa* was printed first as a separatework in Toulouse in 1475/6, perhaps by the printer Henricus Turner. Several other printings of the separate text followed, and it also circulated after 1489 as part of Baldovinus Sabaudiensis (Baldwin of Savoy), *Ars memoriae.* Jacobus himself (probably) put together his *ars memorativa* with an *ars epistolandi* and a digest of more general principles of rhetoric, all of his composition, into what he called an "Epitome of Rhetoric," which was added to and revised quite a bit during its author's lifetime. Perhaps it circulated in various redactions as notes of his lectures on rhetoric.

The first printed edition of Jacobus's full *Oratoriae artis epitome,* including his account of artificial memory, was made in Venice in 1482 by the German printer Erhard Ratdolt (1447–1527). A second edition quickly followed, also by Ratdolt, in 1485, which contains expanded material, including more *ars memoriae* diagrams and a new third chapter on "the exercise and strengthening of memory," chiefly through medical remedies. This edition was reprinted by Ratdolt in 1490, but editions by other printers were also made from Ratdolt's 1485 text. Indeed, Thomas Swalwell copied out the augmented version of Jacobus's epitome, including the "art of memory" with its diagrams, from the edition of 1485, although some material that Swalwell's copy contains is not in Ratdolt's version. Jacobus's rhetoric continued to be popular. Excerpts, including the art of memory section, were printed all over western Europe during the following decades. The translation included in this volume was made from Ratdolt's 1490 reprinting of his 1485 edition; the copy used is that in the Houghton Library of Harvard University, Incunable 1886 (16.2).The drawing is taken from the 1482 edition (it is identical in the 1485 and 1490 editions); it is the

geometrical combinatory device whose use is described at length in the text (the Latin text is translated separately). The serpent-shaped dial in the middle of this figure was made to revolve easily, so that various letter combinations could be indicated as Jacobus instructed in his treatise.

Yet for all the popularity of this work, very little is known of the author, except that he was almost certainly not from Florence as he claimed. Sometimes he is surnamed “Rufus,” though in none of Ratdolt’s editions. A manuscript of his work written in Toulouse states that he was from Spain, as indeed his references to Spanish habits and cultural artifacts may also confirm. He was a physician by profession, which helps explain his strong interest in the medical aspects of memory training. He participated actively in humanist circles in Germany and the Burgundian courts, and in 1464, after a career of itinerant teaching at universities including Brabant, Leipzig, and Cologne, he became a professor of rhetoric in Louvain, styling himself “poeta laureatus.”

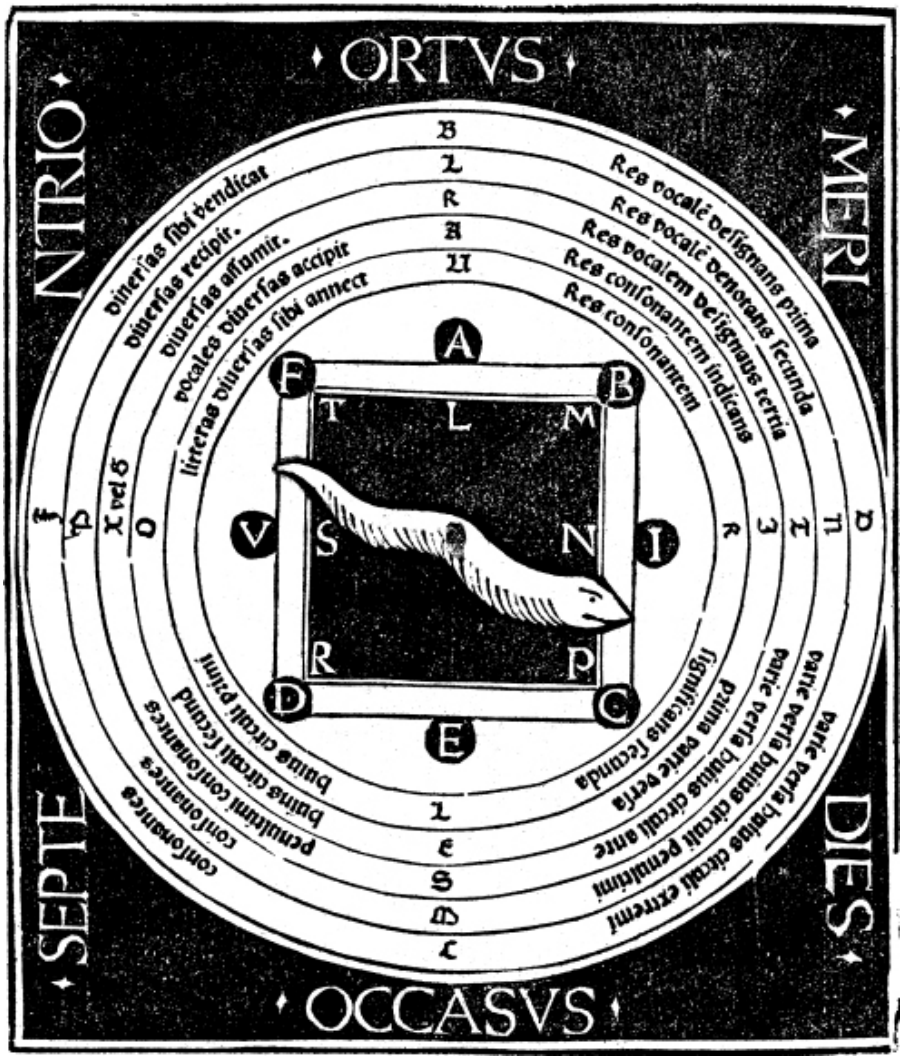


Figure 11.1. “The Wheel for Combining Letters,” Jacobus Publicius, *Ars memoriae* (Venice: Ratdolt 1482), p. d3v. Photo: Henry E. Huntington Library and Art Gallery.

The influence of Jacobus’s work can be seen in many of the arts of memory written in the sixteenth century. To cite three authors for whom Jacobus was a major source, Johann Host von Romberch copied large tracts of Jacobus’s text in his *Congestorium artificiose memorie* in 1533; in 1537, Johann Spangenberg took most of his examples of mnemonic devices from Jacobus; and Jodocus Weczdorff wrote a short work almost entirely derived from Jacobus in 1500.We have included von Romberch’s commentary on a particularly difficult prescription concerning the mnemotechnical geometry of one of Publicius’s circular diagrams, in part to indicate just how influential

(and how obscure) Publicius's art of memory could be, even for his immediate students.

At the beginning of his treatise, Jacobus expands upon the introduction to Quintilian's *Institutio oratoria.* In particular, he extols the power of memory in Neoplatonic terms, by illustrating how artificial memory can help free the soul from the confines of the "fleeting and fragile body." He then retells the story of Simonides, mentioning no particular source, however (by Publicius's time the story was widely familiar). Following established scholastic method, Jacobus arranged the rules of the ancient sources under rubrics to assist the student in learning the precepts of the art. Thus we find in the first book a section entitled "Order of Places." Jacobus situates this in the rhetorical tradition by first describing in detail the proper order of words in a phrase and the order of the parts of an oration before discussing how memory sites should be arranged. This may appear to be a long preamble to the main point, especially since Jacobus devotes only a couple of sentences at the end of this long section to the actual arrangement of memory places. Yet the association of the artificial memory with the traditional elements of rhetorical training must have helped students remember the precepts of the art both when learning them and when practicing them.

In his second book Jacobus describes the images that represent the things to be remembered. While the ancient sources provided a few examples of how to convert phrases and ideas into visual images to be located in memory places, anyone who has actually tried to use the architectural mnemonic quickly realizes how difficult it can be to find visual images that correspond to abstract ideas. Once again, a well-stored rhetorical memory can come to the rescue. Jacobus quotes ancient literary sources to describe personifications of such things as youth, rumor, and sleep. While the largest number of citations are from Virgil and Ovid, there are also some from Sallust, Varro,Valerius Maximus, and more recent writers. Figures and tropes are helpful in finding images since they associate various words and things. Indeed, any sort of connection is considered useful: if one has trouble finding an image for a word, one can try spelling the word backward, cutting it into pieces, or associating it with a similar sounding word.

More images are found in the signs for months, alchemy, bodily gestures, and tokens traditionally assigned to various professions, offices, and saints. Doubtless these lists grew over time; by 1533 they had swelled to fill the two hundred pages of Romberch's *Congestorium,* providing an extreme example of *copia rerum.* Earlier examples include the eclectic lists of memory signs found in Boncompagno da Signa's discussion of rhetorical memory (Selection 5), a treatise that Jacobus's resembles far more than it does the

classical advice of the *Rhetorica ad Herennium.*

Book 3 is dedicated to the strengthening of memory. After briefly describing how to practice memory of the images in order, Jacobus includes a long passage of medical and dietary advice designed to improve the memory. Almost all these precepts can be found in Constantine the African's (ca. 1020–87) *Liber de oblivione,* a translation of Arab works that expand on ancient Greek medicine, and in Arnaldus de Villanova's (d. 1311) *De bonitate memoriae.*

A striking feature is the illustrations in Jacobus's book. Most but not all appear in the first edition (Venice, 1482). Many of the figures are not referred to in the text, and even among those that are referred to, the printer's images do not always fit the text precisely. It would appear indeed that the illustrations were so popular that Ratdolt himself added a few more to the 1485 edition, just to make the book even more appealing. Thus a number of these illustrations are not specifically conceived by Jacobus for this work.The first illustration, which appears among the rules for places, depicts a fortified town on a hill (a citadel, *arx),* with many nooks and crannies that presumably would be suitable sites for images.This may represent a type of the fictitious sites recommended by Jacobus. The next illustration, which is mentioned in the section entitled "Imaginary or Fictitious Places" as an example of an image in which the sites are neither too bright nor too dark but distinct and clear, depicts the spheres of the Ptolemaic universe labeled with the signs of the Zodiac. It is difficult to see the connection of this image with this particular rule, but the Zodiac has a long association with mnemotechnic. Quintilian had already mentioned the use of the Zodiac as a source of memory places, and in the early fourteenth century Thomas Bradwardine used the zodiacal images in his example of how to make memory scenes (Selection 9).

But a number of the diagrams are clearly Jacobus's own work. The section on the manipulation of words contains a depiction of a nude man and woman with outstretched arms. Though these human forms are not labeled, such images were used as sites for the inflections of Latin words, among other uses. Publicius's contemporary, Peter of Ravenna (ca. 1448–1508), in his popular artificial memory manual called *Foenix* (published in Venice in 1491, a decade after Ratdolt's first publication of Publicius's mnemotechnic), described how he used naked human bodies to locate the various cases of a Latin noun: "For in the body of a man I have founde ymages of cases so that the head is the case nominatyve, the ryght hande the genityve, the lyft hande the datyve, the ryght fote the accusatyve, the lyfte fote the vocatyve, and the bely or stomake the ablatyve. And for the syngular nombre I set a fayre mayden naked, and for the plurell the same mayde, well arayed and rychely or her that I wolde be remembred of." Peter of

Ravenna was a teacher of law. This translation of his book by Robert Coplande was published in England in 1548. The large circulation, translation into the vernacular, and longevity of Peter's book give us some additional indication of how popular the subject of mnemotechnic was among the first buyers and sellers of printed books.

Following a section entitled "The Facilitation of Memory by the Addition of Letters," Publicius includes several pages of images, which form a kind of pictorial alphabet set within a grid of rectangular places. Publicius's title for the diagram itself is "Jacobi Publicii Liber Realium Litterarum," or "The Book of Independent Letters." (Jacobus referred to these images as *res* in the instructions he wrote on the diagram that employs them.) There are two pictures for each consonant and three for each vowel in the Latin alphabet. Sometimes the first letter of the word matches the letter represented, as *arta* for A or *cornu* for C (the method also recommended by Thomas Bradwardine, Selection 9), and sometimes the object depicted simply resembles the letter represented, as the picture of a column for the letter I. Publicius's title suggests he intended them to be used as an independent alphabet of images, with which one could "spell" a great variety of words, using them very much in the manner Bradwardine suggested with his right-side-up and upside-down abbot and crossbowman. Publicius's picture alphabet was intended to be used with the diagram of squares and circles that accompanied it.

Geometrical memory plays an important role in Jacobus's system. His major diagrams are geometrical figures, meant to be manipulated. A good example of how this was accomplished occurs in one edition of Jacobus's *ars memoriae,* published independently in Paris by the printer Antoine Caillaut between 1484 and 1490. In this edition, separate letters are printed on small circular pieces of paper attached to the page by a string so that they can rotate. Each circular cutout is placed in the center of four squares drawn on the page, so that each letter provides at least four memory sites. Diagrams with moving parts, made by cutting out pieces of parchment and fastening them to a page, were a commonplace feature in medieval manuscripts, but this is one of the earliest examples in a printed book.

The most difficult illustration in Jacobus's *ars memoriae* consists of a square inside five circles. Letters are located on various parts of the square, and in the circles, and a revolving dial in the shape of a snake is tied to the middle (possibly inspired by the *vermis* structure in the brain: see Figure 6.1). Jacobus's diagram immediately calls to mind the memory geometry discussed by both Albertus Magnus and Thomas Aquinas in their commentaries on Aristotle's *On Memory and Recollection,* and also later systems like the complex *ars combinatoria* of Raymond Llull (1232–1316), which was a topical system for

inventing arguments, among other things. Instead of revolving the circles, the dial in the middle revolved to connect the letters. A paragraph under the heading "The Facilitation of Memory by the Addition of Letters" describes this diagram. When he came to borrow from Publicius in his own memory treatise, Johann Host von Romberch reproduced the illustration and the explanatory paragraph, then explained in much greater detail than Publicius had just how the diagram might be used (see Appendix). Because Publicius's directions on the circles of the diagram indicated how varying combinations of vowels and consonants could be formed by turning the volvelle through the four directions marked on the illustration, Romberch understood how the diagram was to be connected to the pictorial alphabet and explained in detail how its various images could be combined to remember any phrase or saying.

More illustrations appear at the end of Jacobus's treatise.The first two, briefly mentioned in the final paragraph of the text, depict a chessboard with pieces and a Porphyrian tree of qualities. This latter image, which does not appear in the first incunable edition, played an important role in Raymond Llull's classification of universal knowledge. Finally, there is a grid of twenty-five squares containing pictures of various real and imaginary animals, referred in the section entitled "Quantity of Places."

SOURCE: Translated from *Ars memoratiua Jacobi publicij fiorentini* (Ratdolt, 1485/90), Houghton Library of Harvard University, Incunable 1886 (16.2). Appendix translated from Johann Host von Romberch, *Congestorium artificiosae memoriae* (Venice, 1533).

FURTHER READING: The evidence for Publicius's origin in Spain is given in P.O. Kristeller, "Renaissance Manuscripts in Eastern Europe," *Renaissance News* 12 (1959): 83–90. For his career in Louvain, see Henry de Vocht, *History of the Foundation and the Rise of the Collegium Trilingue Lovaniense, 1517–1550,* 4 vols. (Louvain: Bibliothèque de l'Université, 1951–55), 1:159. See also the entry for him in Mario Cosenza, *Biographical and Bibliographical Dictionary of the Italian Humanists,* 6 vols. (Boston: G.K. Hall, 1962–67), who places Publicius at Leipzig c. 1462, at Erfurt in 1466–67, and at Basel in 1470. The early printing history of Publicius's *ars memorativa* may be found in J.J. Murphy and Martin Davis, "Rhetorical Incunabula: A Short-Title Catalogue of Texts Printed to the Year 1500," *Rhetorica* 15 (1997): 355–474. Reproductions of some of the illustrations from the memory section of Thomas Swalwell's manuscript can be found in Ludwig Volkmann, "Ars Memorativa," *Jahrbuch der Kunsthistorischen Sammlungen in Wien* n.s. 30 (1929): 124–31 + figs. 113–24. On Swalwell's career, see A. J. Piper, "Dr.Thomas Swalwell: Monk of Durham, Archivist and Bibliophile," in *Books and Collectors, 1200–*

1700: Essays Presented to Andrew Watson, ed. James P. Carley and Colin G.C.Tite (London: British Library, 1997), 71–100.

Excellent general works on the memory systems of the fifteenth and sixteenth centuries include Yates, *Art of Memory* and Bolzoni, *Gallery of Memory.* Rossi, *Clavis universalis,* discusses how mnemotechnic was associated most closely with topical logic during the reforms of education in early modern Europe. On Raymond Llull's Neoplatonist logic system, see the discussions in Mark D. Johnston, *The Spiritual Logic of Ramon Llull* (Oxford: Clarendon Press, 1987), and *Selected Works of Ramon Llull,* trans. Anthony Bonner (Princeton, N.J.: Princeton University Press, 1985); Johnston also edited and translated Llull's *rethorica nova* as *Ramon Llull's New Rhetoric* (Davis, Calif.: Hermagoras Press, 1994). On the development of humanist academic teaching, a good place to begin is Anthony Grafton and Lisa Jardine, *From Humanism to the Humanities* (London: Duckworth, 1986).

–Mary Carruthers and Henry Bayerle

Preface

I judge it will be scarcely disadvantageous if, contrary to the habit of my predecessors, I now bring back to light and to the public view things which for many centuries vanished from the practice of mortals. For if acuteness of the mind and power of the soul are abandoned in this earthly body, yet understanding will grow very bright by the light of will and memory. Buried in a dark prison through contact with this corporeal mass, memory needs new precepts and the supports of medical art, so that the portion of light which has been taken away from her by union with the fleeting and fragile body will begin by means of new precepts and practice to shine far and wide with its accustomed brightness and former radiance. For memory will be able to provide not only an ornament to herself, but also dignity, luster, and grace to distinguished studies and the liberal arts. In fact our poets have referred to her as the universal parent and most faithful preserver of all faculties and arts worthy of divine and human study, as the basis and glory of divine and human genius, and even as the mother of the muses. Because of her sagacity, movement, and quickness, by which she, endowed with everlasting motion, encompasses, senses, and moves all things, one may regard, admire, and venerate the power of the divine mind. Embracing us with the utmost charity, she transforms us from mute beings, incapable of speech (like Sabinus Calvinus),[1] into skilled and eloquent speakers; the ignorant, slow, and forgetful person she renders good at remembering. To those who wish to remember things naturally, the exercise of this art was given (as to Themistocles and to Zeno of the

divine mind);[2] and for the slow, she produced the precepts of memory, with confidence, order, felicity, tenacity, and abundance of things.

For, as Plato's opinion states, we are born not only for ourselves, but also for our compatriots and for posterity,[3] so those people appear to be very fortunate who are endowed with great talent and are remembered and desired not only by their immediate family, but also by their descendants and successors. After all, what is more distinguished and worthier of glory, praise, and admiration than man's ability to surpass other living things in excellence of nature and ability—and to exceed not only mortals, but even nature itself, by study and vigilance of mind and by dint of memory? [g3v]

Now, since I am not unaware that all of the fruits of this most distinguished or, rather, divine art are stored in the arrangement of order, I will take pains to speak about this very topic briefly and as completely as possible. For it has been established that the poet Simonides, the originator of this art, first devised the system of memory by means of arrangement and order. When he was reclining at a banquet at the house of Scopas in Thessaly, two youths of exceptional beauty kept summoning him, until finally he, weary of their calling, went to the front doors of the festive house. When, contrary to his expectations, he did not find them there, he wandered throughout the whole city in search of them. Meanwhile the house of the banquet, which had collapsed, crushed the guests in a deplorable disaster. When their relatives wished to bury them, they could not recognize the guests, who were crushed in this deplorable kind of death by the bulk of the house which had collapsed. That divine Simonides, silently pondering which place in the arrangement and order each one had obtained, restored dear children to their parents, sweet husbands to wives, and sons and daughters to the embraces and tears of mothers. Allured by this example, I too will begin my discourse with a treatment of order, after first discussing the innate power of memory and comprehensively dealing with its proper capacity.

The Division of Memory

Wise nature established every distinguished power of the human soul and the most outstanding mind of our body in the top just as in a citadel, so that it, adjacent to the senses, nearer to the ethereal heaven, and closer to immortal God, might survey more freely all heaven, the starry expanse, the fiery force, and the clear upper air, and look down from on high upon the seas, lands, and cities placed beneath it, as a mighty and stern controller.

People have called the mind's force and power of accomplishing

things a characteristic with three parts. They have distinguished memory very clearly from intellect and from the image-making faculty. For they assume that investigating and obtaining knowledge of things which are hidden to us, and of their concealed force and nature, precede remembrance. But they have divided this last and most perfect of the human mental powers into memory and recollection. They noticed that these differ from each other to such a degree that they have, with effort, compared the former to a roll of writing, a sheet of paper, or a book, and the latter to a sound, an utterance, or a voice. They declare that recollection, through the habit of constant mind and complete perfection, and memory, through the activity of repeated effort, are almost divine. [g4r]

Desiring to weave together the force of both of these in a common word, I have now brought together this twofold function of the mind with the name of memory alone. I have done this not so that I may arrogantly detract at all from the authority or wisdom of the aforementioned but so that, following the authority of those scholars and respected Latinists, I may explain that which has been discussed by them in two ways more easily as a single item. And so the advantages of our mind and of memory are double: namely, some arise from nature and some from artificial memory. A certain natural force of memory is implanted in our souls and thoughts, which allows us to remember well. This force requires not only places, but true and false images. For each one of the scholars and authorities who desires to think upon, remember, and understand an opinion needs deliberation and reflection. To be sure, it is certain that without the help of corporeal likeness, human nature (which is stronger by means of the sensitive faculty) either does not grasp details, or, if it does grasp them, loses them quickly. Yet when the memory itself, worn out by disease or old age, grows weak, its impediments must be driven away by precepts, medical attention, and exercise. For, according to Constantine the African,[4] Plato taught that one must aid boyhood and old age, the mother of forgetfulness and lethargy, by means of skill and art.[5] Indeed, as we see the goods of our soul, and also the endowments of ability granted to us by nature, obtain a certain perfection by habit and exercise, so we can observe this in memory; even if it can claim for itself no advantage from nature, yet its advantages are increased, and its disadvantages diminished, alleviated, and assuaged by art and practice. For continual practice and long habit are the guide of all things. Therefore, fleeting and fragile nature must be remedied by long meditation and continual exercise. Memory consists of real and imaginary places, through a process of addition; it is facilitated by letters, images, and signs; and it is increased by figures and tokens. But let us now return from these

matters to the topic of order, from which I have digressed.

The Order of Places

Since in every activity, discipline, and art (as in naval, military, agricultural, and civic matters), measure, order, and disposition of things provide the greatest aid to mortals, so too in memory they have so much importance and force that without them all things assisting natural ability lie concealed in obscurity, as if buried in a dark prison and deep mist, wandering and wavering far from the senses. [g4v] Therefore I judge it not disadvantageous to review in a more exhaustive fashion, so that an introduction which seems longer than necessary may provide the light with which the entire system and theory of this topic may shine forth more clearly.

Order is the proper arrangement of things by which every single thing occupies its own place. It may be applied to subjects or to words. For those words which are considered more outstanding in dignity or nature should be placed before others. Virgil provides an example of this in the sixth book: "First, the heaven and earth and the watery fields and the shining globe of the moon and Titan's star, an interior spirit nourishes . . . from this, the race of human beings and beasts, the lives of winged things" *(Aeneid* 6.724—26). Another example: "men and women he subjugated with a victorious right hand."[6] Sallust in his *Catiline,* after mentioning the men who took part in that conspiracy, says that "some women, too, supported him" *(Catiline* 24). These are examples of natural order, which requires the placement of "rise" before "setting," and of "day" before "night."[7] Sallust writes: "The whole world, from the rising of the sun to its setting, subdued by arms, rendered obedience" *(Catiline* 36.4).

Those who are not inexperienced in letters begin with things that are known better, as do Valerius Maximus ("Of the city of Rome and the foreign tribes," *Facta et dicta memorabilia* 1.1); Sallust ("The city of Rome, as I have learned, was in the beginning founded and inhabited by Trojans," *Catiline* 6.1); and Virgil ("The city they call Rome, O Meliboeus, I imagined," *Eclogues* 1.19).

The finite should be placed before the infinite, the equal before the unequal, virtues before vices, the certain before the uncertain, the fixed before the movable, possession before lack, and sight before blindness. The opposition of contraries will follow the pattern of possession and lack; for example, whiteness should be considered possession, and blackness lack.

The order of subjects is the sustained progression of sentences, which preserves sequence and punctuation. It is threefold: a progression of parts, of a speech, and of places. Virgil teaches that one should start from the most forceful and essential things, proceeding to

lesser things: “O Teucrians, release your hearts from fear, shut out your cares. Hard circumstances and the newness of my kingdom have forced me to make such efforts and to post guards far and wide along our boundaries” *(Aeneid* 1.562–64).

On the other hand, Quintilian and Cicero assert that one should proceed by ascending to greater things. Likewise, the parts of a speech seek out their own order, as we have learned in the *Institutio oratoria.*[8] The order of places is twofold, that of the sites of arguments and that of the sites of images. The order of sites in the system of images is the linear series of places, or their arrangement changed into a circle. We search for the order in arguments through their parts and the arrangement of these parts. Whereas order is seen in places, arrangement is seen in the parts of a speech or in images. If they are arranged according to the happenstance of time or absurdly by the inexperienced, they will be hard to learn and more difficult to remember.[9] [g5r]

The rules of places consist fully and perfectly of theory, invention, quality, dissimilitude, number, marking, impression, and imaginary places. I shall speak about these in this first book, beginning with theory. Theory is the proper method of proceeding, by which the advantages of nature are strengthened and the endowments of natural ability are augmented, so that they shine far and wide. It must be observed here that we neither add anything rashly nor omit anything through carelessness. Whoever wishes to avoid doing this will attend greatly to this art and will investigate and observe the rules most diligently.

The Invention of Places

The method of obtaining places is threefold. Either they are established by nature, are devised by the inborn ability of each person, or are made through a combination of these. Those places are called “established by nature” which do not seem to be devised by the inborn ability nor made by our preparing them. Those are obtained by inborn ability which are forged by our own skill. Those are called mixed which are established by nature and artificially by men. I judge this last kind to be both more expedient and more advantageous than the others, for it is impossible to discover all things established by nature, and I consider it most difficult and dangerous to use only fictitious places.

Quality of Places

[Here is placed a small woodcut of a walled, seaside city.]

Quality is the fixed character inscribed in places: they should be envisaged as being in moderate light, at moderate intervals, lasting,

receptive of images, set in a single place, and corresponding very exactly in subject matter or name with the system of images. For it has been ascertained on the evidence of eyes and ears in warfare that extremes hinder the imaginative capacity. For letters which are too condensed and syllables too squeezed or compressed afflict the senses and mind with excessive labor. The approach and return, the wandering and the frequent coming together of people leads our thought astray. [g5v] Therefore natural abilities should be inspired with average measure and moderation to prevent the mind from wavering by becoming too expanded, diffuse, vague, uncertain, undecided, and ignorant. So they should be arranged from South to North at a distance of from ten to twenty paces, sheltered from light, in a deserted place, contained by a circumference of five feet.[10]

Dissimilitude of Places

Similarity among the locations should be avoided more than death. For the one destroys good arrangements, just as the other dissolves connections. It makes a person pathetic; it makes the mind and soul abject by weakness of memory; it stains us with a slowness and a disgrace that are everlasting or permanent. For these reasons, we should be able to avoid this by [adding] color to the structure and height to the figure, and by [using] diverse material. Or if we do not do so by means of places chosen and arranged with art, at least our places should be fashioned with variety, using stones, trees, mounds, altars, monuments, bireme boats, inclined bridges, stars, and islands.

The Marking of Places

Locations are marked in two ways. One way is by numbers, the other by material objects. It is called a mark by numbers when every fifth number is inscribed: and this is noted with an arithmetical or a material figure. For example, a sickle, hand, or foot will signify the fifth place, a cross the tenth, and twins the twentieth. But Hermippus mentions that each individual place should be marked, so that when you come to it, you may retain the matter, the place, and the number of the place; and so we will be able to exercise our memory more easily by keeping in mind not only the material image but also the number. Albertus Magnus mentions that each tenth place should be marked, Quintilian and Cicero each fifth.[11]

Marking with objects is the addition of an object inserted into the location. When a place is lacking [qualities that are] in accordance with the above rules, it should be made more efficacious by [adding] another thing, lest the mind be rendered hesitant. For if the location seems vast, or in motion, or too glaring, we can secure it with a chamber, a nail, or a screen.

The Impression of Places

We will impress on the memory places which have been acquired with skill through long meditation and continual exercise, until we are able to retain, arrange, and reproduce them from memory just as we are able to do with things that are most familiar to us. For the memory is distracted and the entire force of the mind is weakened if in assembling images we deviate from the order merely by one place. [g6r]

Quantity of Places

Now that the rules of places have been explained, evidently it remains for us to devise almost unlimited places. Using order, quality, light, distance, and moderate intervals in a deserted place, we will fashion them stable and dissimilar, so that, if we wish something not to fall out of memory but to cling tenaciously impressed for a long time, and we are eager likewise to commit other things to memory, we should place them in different locations. For it is both dangerous and ridiculous to confirm in the same way two joint heirs to the same matter. Whoever wishes to multiply these things without labor will seek one hundred invented animals in the order of letters and of the alphabet, and will fit to every single letter-sign five huge deformed animals; or a person can mingle other objects with the animals, so that by this diversity they cling more firmly impressed in memory. By which, on account of their number, we will be able to set up many different places of images for our [compositional] themes. It will follow the pattern of a square, which will be described in the last volume.[12]

Imaginary or Fictitious Places

Imaginary places have been demonstrated to bring no small amount of aid in practice. If they have been devised in a distinctive order, using the system of places, let them be neither so shining as to flash out, nor so obscure and covered in darkness as to be absolutely hidden, but let them be distinct and clear (as is evident in the following figure [of the cosmos]), and let them present to us an accessible multitude of places.

However, since this first book has grown large enough in the discussion of the order, rules, theory, invention, quality, dissimilitude, marking, and impression of places, and of the multiplicity and understanding of imaginary places, I have judged it more suitable to discuss the remaining topics in the following volume. [g6v]

[Here is placed a full-page diagram of the cosmos.]

The Second and Last Book of Images of Jacobus Publicius[13]

Since I have revealed the method of places in the previous book, clearly it remains for me to discuss images in this second book. For simple and spiritual ideas which are aided by no bodily likenesses slip very quickly out of memory.[14] We will obtain this advantage for ourselves by means of an image, that is, by signs and tokens. For an image is the connection of one form with another form by some likeness of a figure, sign, or token. These ought to be full of ridiculous movement, remarkable gesture, savage and cruel expression, bewilderment, sadness, and severity. The reason for this is that things which are great, unbelievable, previously unseen, new, rare, unheard of, deplorable, exceptional, indecent, unique, or very beautiful convey a great amount to our mind, memory, and recollection. For extreme things excite the human senses and the human mind with greater force than do average things.

The account of this matter consists of many parts. For there are twelve kinds of sign. The first of these is called *portrayal.*[15] It is used when the appearance of the body is described by certain symptoms. Let us, with the help of this skill, portray an old man here in this way: trembling, bent, moaning, with lips drooping on his hoary chin, now wiping the mucus from his nose. In contrast, youth will be portrayed as happy.

The beauty and foulness of our body will be drawn in this way. Just as a long neck, and great length of hair, fingers, and the entire body, produce in us admiration and amazement, so daintiness of nostril, mouth, ears, breasts, belly, and feet provides an ornament to them; if in this way they are demure, you may think [them] the better. Breadth and dignity of the forehead, eyes, and chest should be added to them as an honor. The voice should correspond to the sex. Neck and shapely fingers bring beauty and rather long arms bring dignity.

To these somewhat ruddy jaws, mouths blooming with roses, and red lips should be added. Whiteness of hands, chest, neck, and face; blackness of eyebrow, eyes, necklace, and clothes; modest gait, distinguished reputation, and outstanding virtue should be added to these good qualities of the body. Hence Terence the poet, finding fault with a girl, despises "a gray-eyed redhead, with spotty face and curved hands" *(Heauton timorumenos* 1061). Through these and similar notations, through continual practice, we will purchase for ourselves private images for our subject matters and personal memory tokens. [g7v]

The second kind of sign which offers itself to us is character delineation, by which we bring natural character traits to public view.[16] For instance, let us disclose the dispositions of each age and of each animal in this way: the wolf is voracious, deer and hares timid,

and she-goats prone to flee. Youth is said to be happy, old age sad, adolescence prodigal, women most covetous, and men generous. The method of definition will assist this matter very much, as will poetic descriptions.[17]

So anyone who is unaware of the nature of Hunger may read carefully these few verses of Ovid: "Having sought out famine, she found her in a stony field, plucking with nails herbs with fixed roots. . . . Her skin was rough and the entrails could be seen through it; her parched bones protruded beneath her crooked loins, and instead of a belly there was only a belly's place; you would think that her breast was hanging free and held only by the ribs on her spine; her thinness made her joints large and the orbs of her knees swollen; her ankles bulged with an enormous lump" *(Metamorphoses* 8.799–808).

Anyone to whom the image of Rumor is unknown may read carefully Virgil in the fourth book of the *Aeneid* and Ovid in the eighth book of the *Metamorphoses.* Virgil describes her as "quick in feet and nimble wings," and as having "as many sleepless eyes on her body as she has feathers," and "as many sounding tongues and mouths and as many raised ears" *(Aeneid* 4:80–83). Calamitous Envy is thus described by Ovid: he makes "her teeth foul with mold." She eats snake flesh. Her line of vision is never direct; "her smile is absent unless others have caused it through their grief."[18]

He devised the representation of Sleep remarkably.[19] He made for her a dark house, from which all barking of dogs and also every wakeful winged creature are absent. The descent and rustling sound of waters, poppies, and a bed made of ebony incite the reclining god himself to sleep. Using these things, we will be able, by their example, to devise and easily discover frequently hidden signs.

The knowledge of etymology contributes much to the investigation of images and signs. If someone named Philippus offers us his image with difficulty, he will easily furnish a likeness by the etymology and form of his name. For it takes its form from *philos,* the Greek for love, and *hippos,* horse, and so is "the lover of horses." Jerome is understood as "holy law," and Jacob as "he who wrestles with." [g8r]

Varro asserts that forehead *(frons)* takes its form from "socket (of the eye)" (*for a men)* and eye *(oculus)* from "covering (to avoid injuries)" *(oculendo ab iniuriis).*[20] Calamity *(calamitas)* comes from "the shaking of reeds" *(excussio calamorum),* woman *(mulier)* from softness *(mollicia),* female (*femina)* from the hidden part of her body.[21] Thigh-coverings (*feminalia)* too take their name from this place. Man *(vir)* comes from virtue *(virtus)*. Human *(homo)* takes its origin from humus *(humus),* which the theology of the ancients confirms in the account of Prometheus. A pauper (*pauper)* is not content with his things *(rebus);* a wretch has nothing.[22] Destitution

(egestas) is of those who have managed (*gesserunt)* their wealth without reason. Penury (*penuria)* is so called, because it almost burns us (*pene urat)*. A destitute person *(inops)* lacks all goods *(opera)*. Conversely, a wealthy person (*pecuniosus)* abounds in flocks (*pecora),* a rich person *(locuples)* in places *(loci*), a wealthy person in money,[23] and an opulent person *(opulentus)* in goods *(opera)*. A lucky person is born under a favorable group of stars, for whom things have turned out well, thanks to a good constellation.[24] A blessed person *(beatus)* has been enriched by beatitude *(beatitudo)* and divine providence, and a fortunate (*fortunatus)* person by good chance and fortune (*fortuna)*. I would not be burdened to speak of this matter if it had not been discussed in another book written by me.[25]

Onomatopoeia, that is, the knowledge of a word derived from the sound that it makes, also brings us no small amount of results in this matter. Examples of this are: Ennius's verse, "[the trumpet] said 'taratantara'" *(taratantara dixit*),[26] the neighing *(hinnitus)* of a horse, the lowing *(mugitus)* of oxen, and the bleating *(balatus)* of flocks. The night owl and bat shriek *(strident)*. The buzzing (*bomhitus*) of bees. The crane makes crane noises (*grus gruit)* and the crow crows *(crastinat corvus);* the horn is characterized by the sound "tu,"[27] trumpeting from an elephant *(barritus a barro)*. Screech owls shriek *(ululant ululae),* hawks squawk (*pipant accipitres)*. There are many more words of this kind, which through use and habit will provide images by the sound of their voices.

To note and to assemble the effects of things often is an excellent way of proceeding. With the aid of these, we may be able to commit many things to our minds. In this way we will assemble the names of the months, as Mars is dedicated to war; in the month of April all things are opened *(aperiuntur),* so that flowers and vines teem and unfold buds; May was abounding in flowers, June in herbs and foliage. Of this Virgil writes: "Then sleep is sweet, and the shadows on the hills are dense; all things now blossom" *(Georgics* 1.341). July should be adorned with crops, as Ovid writes: "Summer stood nude, wearing wreaths made from ears of grain" *(Metamorphoses* 2.27). In August all fruits have grown. September has sweet grapes and brings sweet fruits, October service-berries and medlars. November gathers olives for oil and blood-red myrtle berries. Two-faced January looks at once at the past and the future. February recalls flowery spring from Februus and Pluto.[28] [g8v]

In this way we seek a system of days: the day of the sun will be noted with a crown of twelve gems. Or it will be sought using the terminology of the alchemists: they have assigned gold to Sunday, silver to Monday, iron to Tuesday, quicksilver to Wednesday, tin to Thursday, copper to Friday, and lead to Saturday.

The arms and instruments of each art can distinguish functions and originators, as javelins distinguish Romans, long pikes Macedonians, and small leather shields Spaniards. So too the tools of each workshop reveal the craftsmen, such as a mill, a shirt, a wine flask, greens, rakes, and other things which are similar to these.[29]

By the same process we will devise and will be able to investigate much better by means of movement in a part of the body. For people have assigned individual parts of the body to various activities. They have assigned the toes of the feet to jumping and quickness; the knees to mercy; the fingers joined in an interlaced pattern (like the teeth of a comb) to grief; the head placed or allowed to fall upon the chest to concession; the head turned on the neck to denial; the head drooping on the shoulder to hypocrisy; the back to flight; the buttocks to rest and leisure; the hair to wealth; the fingernails to cruelty; the teeth to discord; the fingers to Minerva;[30] the brow to pride; and the ears to memory.

The opposite very often leads to the restoration of memory. For example: a tortoise for quickness, a sick and infirm person for one who is in good health, and many things which are expressed through irony.[31]

Accident and property will be noted according to the subject, as blackness will be pointed out in a Moor, swarthiness in an Arab, redness in a Dalmatian, whiteness in a Gaul, laughing in a man, neighing in a horse, and trumpeting in an elephant.

Knowledge of the cause normally produces recollection in us. For we say avarice is the cause of theft. For this reason the exceptional poet, having embraced the precepts of memory in verses, says, “The cause or its opposite, as well as the instruments, or the performance; similar things will make you remember.”[32]

If you wish to remember something mixed in its substance, brief verses or an image unconstrained [by naturalistic conventions] will unravel [it]. For images will easily exhibit before us centaurs and the chimera.

Since the first part of this booklet has almost been completed by me, I believe I should now turn to signs. For in the same way as the [outward] token of a woman’s thought displays evidence of an injured conscience when she turns pale, remains white, or blushes, so can a token represent the form and image of actual subject matters. [h1r] By such a sign’s power, difficult matters will be made accessible easily through poetry. This is why I have accepted the report, not without justification, that Camillus the jurisconsult, having summed up the major divisions of all human law in a very few verses, committed them to memory.[33]

By the division of matters and the reversal of letters and of

syllables, we will search out concealed figures: thus "things" *(rebus)* renders "cork" *(suber),* "giraffe" *(nabo,* from *nabus)* renders "goods" *(bona),* "praiseworthy" *(laudabilis)* is cut into "judgments of gall" *(lauda bilis),* and "grove" *(nemus)* renders "teat" *(sumen)*. By the combination, addition, and removal of letters and by the linking of one to another, memory will be stimulated. For example, from "that very woman" *(istam ipsam)* we will make *mipsam* by taking *m* away from the first word and joining it to the following one. Moreover, the former word will be written better with a small number of letters; thus, H signifies *ista.* We will seek in words a similar ending or beginning, or both, as "the guiltless ones" *(innocentes)* and "the pardoning ones" *(ignoscentes)*. Sensory subject matter should be referred to the senses, as something seen, heard, and smelled; but if I would speak of the action of seeing or of smelling, I may mark [it] after having converted it into a sensing body, such as she-apes, nanny-goats, and elephant trunks.[34] Likewise, the letter can be the same, although the signification may be different or inconsistent. So, for Virgil's "Not unacquainted with grief, I am learning to help the unfortunate" ("Non ignara mali miseris succurrere disco"; *Aeneid* 1.630), it is unimportant whether the image is "in ara mali pomi" or "navalis ligni."[35] Verbs are often rendered by the nouns and conversely, as in the case of *disco* and *amo.*[36] [hiv] This is also the case with adverbs, as "I will build" *(condam)* and *(quondam)*. It is very fine to render many letters with a single letter, as whenever the symbol .Δ. is placed in that pierced part of the body, it inflects the noun and the verb, as will be clear in this figure.[37] [Here follows a half-page woodcut of a female and a male nude, each standing with hands outstretched.] A realistic image for the same noun contributes very greatly to memory, especially if it is applied to a word which we wish to commit to memory whose referent has existed in actuality, as *meles* ("badger") and *sepe* ("hedges");[38] but if this cannot be done, let us turn to something else. Those phrases that are ambiguous we may leave [memory] traces for by how we perceive them sensually and not by their meaning, such as *sistrum canis* and *sepe arma,* and others similar to these which we know.[39]

It now remains for me to speak about the fourth part of this second volume. Attributes refer the defining feature of each subject to a specially chosen designation. They are of three kinds: they are called the actual and fictional attributes of matters, persons, and places. The attributes of persons are these: the orb of an emperor, the crown of a king, the scepter of a praetor and prefect, the fasces and axe of consuls, the tiara of the Supreme Pontifex, the scarlet biretta of cardinals, and the miter of bishops. Golden spurs indicate military rank; golden rings, golden belts, pearls, and gems indicate a doctor.

For this reason I judge that it has not been said without justification by the poet, "Galen goes on horseback, burdened with gems and gold, Plato brings Aristotle along with him on foot."[40]

The lion is Mark and the eagle is John; the calf is the attribute of Luke, the angel of Matthew, chains of Leonard, combs of Blaise, his own skin of Bartholomew, keys of Peter, nets of Andrew, cockle shells and a cap of James, a milk-white piglet of Anthony. The particular products of any place are called the attributes of places. Hence Virgil, in the first of the *Georgics:* "Here corn, there grapes come more prosperously, elsewhere the seedlings of trees, and unbidden grasses grow green. Do you not see how Tmolus sends scents of saffron, India ivory, the soft Sabaeans their incense; but the naked Chalybes their steel and Pontus strong-smelling castor, Epirus the victories of Elean mares?" *(Georgics* 1.54–59). So Candia exporting sugar, Florence purple, and Valencia rice will be marked by their particular products.

The attributes for subject matters are the sword of justice, the scales of equity, the Herculean club of strength, the compass of the geometer, the astrolabe of the astrologer, and those which we mentioned above concerning the parts of our body, such as the teeth of discord. The attribute of remembering is the hand placed on the forehead, and the eye; that of forgetting is the biting of the fingers and nails; and other [actions] which are similar to these. There are a few [attributes] which, although they are commonplace, nevertheless are associated with their inventors; so the sling is associated with Balearics, the bow with Englishmen, and the catapult with Spaniards. There are also some which are taken from comparison, such as poorer than Codrus, richer than Crassus,[41] more beautiful than Narcissus.

[h2r] The Third and Last Book of Jacobus Publicius of Florence on the Exercise and Strengthening of Memory

Since practice and habit are called the instructor of teaching and art, I have decided to speak about them in this last volume. For the theory of this art is weak unless it is strengthened by industry, vigilance, and exercise.[42] Practice is the continual exercise and constant habit of remembering.[43] There are two kinds of memory: that of nature and that of art. The natural ability does not make use of locations but sometimes uses markers. The work of memorycraft relies on composed locations and images. The work of removing locations is performed the same way.

The Strengthening of Memory

To fortify memory with the utmost effort and avert very strenuous labor, apprehension, or despair, not all at once but separately we will fill out our arranged images and, in an order based on five, our places

[each] distinctive in its place in the series, its number, and its images. We will go over each one five times in our mind. Soon we will repeat all of them together silently; and finally, by a progression in fives, having removed all fear, we will recite them from memory. For memory is refreshed and the greatest part of labor is removed if we do not extend indefinitely in one breath the subject matters consigned to our places, but rather, like those surmounting in stages the most difficult ridges and arduous passes, or indeed like weak children, in age unused to struggle, in intervals marked by milestones, with blandishing rewards and in short journeys looking back over the exact distance. We will strengthen our mind so much with these [procedures] that we will be convinced that we will not to be able to slip either from the order or from the matter.

Aids to the Natural Ability

Sabinus of Ithaca, who commented on the books of Hippocrates, divided the seat of mind and memory into three parts.[44] Between the posterior and anterior ventricles he located a middle organ, the pineal gland. When we apply ourselves to seeking something with memory, this pineal gland is opened to provide access to the psychical pneuma from the anterior to the posterior ventricle.[45] For this reason scholars say that Proclus, a professor of the medical art, said that the posterior ventricle is more noble.[46] [h2v] For only when the psychical pneuma is serene, lucid, and clear does it cross over to the posterior ventricle. If this part is blunted by immoderate cold, it renders our memory dull and languid. But cold seems to summon to itself humidity or dryness. Frequently simple cold joined with humidity summons lethargy; when joined with dryness, it summons insomnia and immoderate wakefulness, as is evident in children and old men. For this reason divine Plato calls old age the mother of lethargy. Aristarchus mentions that children and old men fall easily into diseases, forgetfulness, and death.[47] To avert these things, they have devised these aids for the physical well-being of people: exercise, a bath, food, drink, and moderate coitus. For the spirit and natural heat, put to sleep by sloth, derangement, and base leisure, should be recalled from the senses and aroused by exercise before a meal. They should be relieved and loosened from exercise by baths, food, and drink. Sadness should sometimes be dispelled by pleasure, happiness called back by coitus. Insomnia and immoderate sleep are to be relieved by moderate sleep at night. However, midday sleep should be avoided especially by those not accustomed to it. But if, because of long habit, you consider it necessary to sleep, you will get your sleep with your feet uncovered by any shoes. For when the members are relaxed by deep sleep, the thickness of the shoes reflects the harmful vapors of the feet to the

eyes and brain. You will keep your head covered moderately with cloths, according to the season; for just as excessive cold, so excessive heat dulls the mind with stupidity. We will avoid sleep reclining on the back, which warms the kidneys beyond what is good and balanced, as a most harmful enemy of our mind. This position is most welcome to the female spirit and suited for nocturnal delusions and pollutions. They advise men to take rest on the side and on the face. According to Aristotle, rising before dawn contributes both to philosophy and to health. Yet Socrates teaches that one should pay attention to time and place. The professors of the physical and medical arts vouch for this. Therefore when the sky is imbued with light, it will be preferable for sleeping people to shut out the sight of the sun. But when the ground is covered with snow, frozen water, and white frost, we will remember that all cold should be warded off from us as a disease of lethargy and memory. [h3r]

Therefore bodies will be wrapped, not far from the fire of warm and fragrant things; or we will keep ourselves in closed rooms shut off from air and wind. We will purge all channels of the body. We will arouse spirits and senses by expectoration and motion. Then we will rub the head with an ivory comb and a rough, coarse rag. After washing hands and face, we will swallow six raisins and as many juniper berries. Finally, when the natural heat has been aroused with light exercise, we will have a timely lunch without breakfast. To cleanse the stomach and arouse the appetite, we will begin the meal with somewhat sour things, without sweets. First rather light wine or wine mixed with water should be served, lest the veins, opened wide by the vehemence of the wine, inflame the blood. One should take warm and dry portions of food in this order: after satiating our hunger with boiled meats, we will finish the meal with roasts, contrary to the habit of the Spaniards. We will close the opening of the stomach with natural or artificial constricting substances, lest vapor emitted from the stomach by the boiling of the food, clouding the mind and the intellect, elicit sleep. Natural constricting substances are apples, Syrian figs, pears, medlars, and service-berries. Artificial constricting substances are almonds, hazelnuts, basil, walnuts, maple nuts, filberts, pine nuts, dates, roasted chestnuts, figs, parsnips, and prepared coriander.[48] You will consider it necessary to abstain from cold and moist meals and brain, marrow, ham, meat from an animal which has pulled a plow, and old beef. Pungent and smoky things, such as horseradish, garlic, onion, leek, unless they are digested by fire, you will avoid as an enemy of memory. You will keep the head and feet very clean with a decoction of water in which honey, bay leaves, and stems of fennel and chamomile have been boiled. You will abstain from immoderate coitus, in accordance with the opinion of the

Pythagoreans. You will avoid noxious odors which harm the brain. We consider aromatics welcome and dear to us, as aids to the intellect. You will know well that frequent exercise at night and at dusk in the manner of the Pythagoreans is a great help to memory and to the human mind and intellect. Moderate pleasure and moderate delight brings much help to memory. Arnold and Tiberides assert that the tongue of a hoopoe, given to a forgetful person, restores memory.[49] [h3v]

The dulling of the mind is alleviated by the sneezing caused by mustard, pepper, and castoreum, and by the chewing of oregano, stavesacre, and root of caper. According to Constantine the African, a sneezing powder made from the gall of crane and elder oil cures lethargy *(Liber de oblivione,* 230–31). Democritus, Archigenes, Alexander, and Andronicus the Peripatetic have described many aids to the mind in their written works; I would not feel burdened to commit these things to writing if I did not know that they require the attention and counsel of an esteemed doctor.[50] Therefore they claim, not without cause, that poultices, an antidote, ointments, and pills should be given by doctors of sound mind.

The Facilitation of Memory by Combination of Letters

It has already been established by experiment that the combining of letters and material objects brings us a great, immeasurable, and almost divine advantage. For, the head of each object having been circumscribed by a transverse line, we will make variations [to it] by means of a square.[51] However, when the image is in human form, it will add new features to the first either by means of a diagonal line extended bit by bit, or by means of a letter revolved through the cardinal directions of the globe. Or when complete objects are extended at length and broken up into pieces, they will supply us an additional number of parts to be written on. For, having been rotated, divided, extended, and combined with discerning and meticulous art, they will connect letters to letters, reveal the conclusion of the subject matters, and give [them] meaning. For if you turn the letter B toward the sunrise, the center of the earth; C to the west or the sky; D to the south; F to the north, the vowel joins itself [to the consonant]. The consonant, following the same order, combines vowels and liquids, whose combinations are revealed in these verses: First B holds the center, C the sky, D the south, and F the north. O is circular, entirely curving back upon itself. Divide S along the height and R along the length. A cross distinguishes T, and a crown will mark L, M, N. You may connect [them] repeatedly: you may form diverse and various middle sections [like] Argive swords and Spanish spears.

In addition, the alphabets of diverse nations and races, as figures

which are new and unknown to us, greatly arouse the mind to recollection. For this reason I decided to add Greek and Hebrew letters here, so that we can more easily relieve the mind by the method of diverse figures. [h4r]

[Here is printed a table of the Greek alphabet. On the following seven pages are images forming a pictorial alphabet; for further description, see the Introduction. After these pages of picture-letters, three images for each vowel and two for each consonant, is a full-page woodcut of the combinatory diagram, Figure 11.1. See also the explanation of Romberch, which is translated in the appendix to this selection. The "thing" *(res)* referred to in each of Publicius's instructions is one of the images or *litterae reales* of his pictorial alphabet. A translation of the Latin phrases and letters written in the five circles follows:]

The first thing marking a vowel, as it is variously rotated, attaches to the diverse consonants of this last circle: D C F B.

The second thing designating a vowel, as it is variously rotated, goes with the different consonants of this penultimate circle: N M P L.

The third thing designating a vowel, as it is variously rotated, takes up the different consonants of this antepenultimate circle: T S X or S R.

The first thing marking a consonant, as it is variously rotated, attaches to the different vowels of this second circle: I E O A.

The second thing designating a consonant connects to itself the different letters of this first circle: R L U.

[Here Publicius's main text resumes.]

The Method of Committing to Memory Anything to Be Retained in Places

When you wish to remember, skim over your text, reading it quickly twice. Then we will construct the actual order. Next we will investigate the meaning of each part. Finally, having embraced the meaning of all of them together, with moderate sound and in a voice just above a whisper, we will commit the text easily to memory and to places. [h8r] We will observe whichever rules exist concerning the strengthening of memory. We will repeat the places exactly in long meditation with ourselves. If we desire quickness of memory and retention of names, we will write down the signs and images in the order of the letters. Moreover, if the things committed to places sometimes flee our memory, we should consider it established and certain that this befalls us either because of not observing the rules or because of ill health and impotence of the natural memory. For it is

impossible for the memory of those who are most observant of this art to be deceived.

The Abolition of Images Committed to Places Which We Do Not Wish to Adhere in Memory for a Long Time

To avoid overwhelming the mind and soul in long and continual labor with an investigation of new places when they are already packed with known things, and confusing them with the addition of new things, and to enable us to come to the aid of both memory and forgetting, we will allow all earlier things to be obscured, weakened, and destroyed in the circuits of passing time, as if thrown out from their sites by a storm wind or even an opposing tempest. We will bring forth the mind as houses already made empty.

The Repetition of Images to Be Committed to Places Which We Wish to Adhere in Memory for a Very Long Time

It is useful to know the force of the natural ability of our mind and the long-lasting retention of our memory as the prefixed boundary of the mind. When we have reached this, we will continually recall those things which we wish to hold firmly impressed in memory. For we consider it established that nature is not superior to craft, nor art to nature. For both those things which we have grasped by means of natural memory and those which we commit to memory by art, if they are not recalled at prefixed intervals, will fall out of memory just as transitory and perishable things.

It remains for me to speak of that part of memory which concerns orators, that is, of sentences, and those things which correspond to them. For a sentence is not what the unlearned crowd believes, but that which explains many written texts in very few words as a method of living well. In this, genus, place, time, person, and force of sentence are noted distinctly. Syllogisms and arguments will claim for themselves the same method. But here we will put the middle or major and minor terms in places; when the premises have been considered, the intellect infers from itself the conclusion, which it does not acquire unless from the major and minor terms. [h8v] But they say the middle term in the proposition is the cause of the inferred conclusion, in which the effect is included according to potentiality.

Now I will speak of those which delight the soul, sharpen the talent, and express the signs of memory very well. Of these I will publish a table depicted doubly and a tree, so that a conclusion may be given easily to this work, labor may be taken away from all, and our listeners may be able to obtain from this a delightful yield of praise.

[Here is placed a chess board set up for the beginning of play, whose major pieces are labeled as follows:

Governor	Knight	Counselor	King Queen	Counselor	Knight Governor
Farmer	Smith	Scribe	Treasurer	Doctor	Innkeeper	Tell Jester
					gatherer

Following the text are a tree diagram (the Porphyrian tree of qualities) and a grid diagram containing the images of twenty-five bestiary animals.]

APPENDIX FROM JOHANN HOST VON ROMBERCH, *CONGESTORIUM ARTIFICIOSE MEMORIE*

Chapter 12. On the Composition of Syllables Using "Real Forms" of Letters

Publicius claimed that there is an almost divine power in helping memory in composing phrases from combinations of objects and letters. And this he demonstrated using a square within five circles. And since I should hope to lay open something obscure and rare from all of the teachings of this art for your use, I have endeavored to render this accessible. For this reason I have here reproduced verbatim the words of Publicius, explaining the sense that I have been able to track down from them. He wrote:

"It has already been established by experiment that the combining of letters and material objects brings us a great, immeasurable, and almost divine advantage. For, the head of each object having been circumscribed by a transverse line, we will make variations [to it] by means of a square. However, when the image is in human form, it will add new features to the first either by means of a diagonal line extended bit by bit, or by means of a letter revolved through the cardinal directions of the globe. Or when complete objects are extended at length and broken up into pieces, they will supply us an additional number of parts to be written on. For, having been rotated, divided, extended, and combined with discerning and meticulous art, they will connect letters to letters, reveal the conclusion of the subject matters, and give [them] meaning. For if you turn the letter B toward the sunrise, the center of the earth; C to the west or the sky; D to the south; F to the north, the vowel joins itself [to the consonant]. The consonant, following the same order, combines vowels and liquids, whose combinations are revealed in these verses: First B holds the center, C the sky, D the south, and F the north. O is circular, entirely curving back upon itself. Divide S along the height and R along the length. A cross distinguishes T, and a crown will mark L, M, N. You may connect [them] repeatedly: you may form diverse and various

middle sections [like] Argive swords and Spanish spears."

This much he wrote. What he means by this you yourself will infer, if you are able to divine from words promising a divine usefulness that which the divine oracles of Apollo promise. I confess that I have on many occasions verified that one particular thing is rather easy for me, namely, to devise a thing that others admire as rare or unaccustomed to them, since I can interpret the dreams of others. Now this seems to me to be the meaning of this author: that if any phrase is applied by letter or by syllable to this figure, it will be varied diversely. For he devised the square for varying the beginnings of things, either of syllables or of words: but the circles for the variation of their middle or ending. If indeed by an oblique line a letter or syllable is associated with and joined to some letter of the square, the two together will form the beginning of the phrase. For if the A [in Publicius's diagram] is moved on an oblique line it will make a juncture with B. Then after this juncture C, and so forth. And when this syllable has been similarly removed from the square, and you refer it to the circles for the one and the other (letter) it will terminate the combination in various ways. For toward the east it will form "aba" or "abu," but toward the south, "abi," and to the west, "abel," and finally to the north, "abo." In like manner all the phrases in the world can be composed from the above things signifying the letters of the alphabet and from the letters of this figure. It is consequently important that the alphabet of Publicius be employed with this figure.

There are three figures for each of the vowels in the above alphabet. For A claims to itself *arta, circinus,* and *scala.* And E is signified by *cancer, rota media,* and *serra;* I by *columna, piscis,* and *turris;* O by *nola, pomum,* and *trigoma;* and likewise U by *vir extensis cruribus, rallum,* and *torcular.* And for these triple signs there are three circles; the highest of these, in which are contained B to the east, D to the south, C to the west, and F to the north, serves for *arta, cancer, columna, trigoma,* and *vir.* So signs of this kind claim for themselves only B, C, D, and F. And *arta* will form with them: AB, AD, AC, and AF. *Cancer* designates EB, EC, ED, and EF; and so forth with the rest. The second circle containing L, M, N, and P is accommodated to *circinus, media rota, piscis, nola,* and *rallum.* And with *circinus* is composed AL, AM, AN, and AP. But with *rota media* EL, EM, EN, and EP. And so forth. The third or middle circle embracing R, T, S, and X/S is devoted to *scala, serra, turris, trigoma,* and *torcular.* And *scala* will make AR, AS, AT, and AX/AS, and so forth by analogy with the rest. Moreover, consonants and liquids each have two signs, to which the two lower circles correspond, so that the first object designating a consonant corresponds to the circle in which are contained A, E, I, and U, and the second corresponds to the lower one which embraces U, R,

and L, by which they vary the phrase diversely. Now examples of all these things will be contrived easily from phrases. For the rest, images of phrases are constituted by combination of this kind; moreover, so that we may take parts of the wholes, it will suffice to lead and to diminish them at length. As they are turned, divided, drawn, and adjoined, they connect one letter to another.

So as to avoid being more verbose than this exposition requires, I leave it to you: you can root up whatever other more secret things lie hidden in the text.

1. Seneca *(Epistles* 27.5–8) describes Calvisius Sabinus (whose name has been garbled by Publicius) as having a memory so bad that he could not even remember simple names.

2. Themistocles (ca. 524–459 B.C.E.) was a renowned Athenian politician. Zeno was a philosopher active in the early fifth century B.C.E. who is known, among other things, from prominent mentions in Plato and Aristotle.

3. Publicius quotes from Cicero, *De officiis* 1.7.22, a passage in which Cicero in turn refers to Plato's Letter 9 (to Archytas of Tarentum) [358A].

4. Constantine the African (d. 1087), a Muslim convert to Christianity, was the most important medical writer in the Latin West of his day and was a prolific translator from Arabic.

5. Gerrit Bos, in Ibn al-Jazzar, *Ihn al-Jazzar on Forgetfulness and Its Treatment,* ed. Bos (London: Royal Asiatic Society, 1995), 22 comments on Ibn Al-Jazzar's citation of Plato: "Plato does not call old age 'the mother of forgetfulness', but speaks in the *Phaedrus* about the 'forgetfulness of old age.'"

6. This phrase, "viros et mulieres victrici dextra subegit," does not appear in known Classical Latin sources.

7. Cf. Quintilian, *Institutio oratoria* 9.4.23.

8. Quintilian, *Institutio oratoria* 9.4.23, writes that words should be arranged in this way in sentences. However, he does not apply this principle to the parts of an oration, where the strongest arguments are to be placed in the beginning and the end, and arguments of medium force in the middle (3.3.8). The same advice about the parts of an oration appears in Cicero, *De oratore* 313, and in *AdHerennium* 3.10.18.

9. Cf. Quintilian, *Institutio oratoria* 9.4.25.

10. It is not clear to what these measurements refer. "Ten to twenty paces" may be the distance between places or the distance between the viewer and the places. "Five feet" may be the size of each individual place or the distance between places. In his *Congestorium,* Johann Host von Romberch writes (translated by Mary Carruthers): "The distance from place to place should be a gap of five feet; however, Cicero wished the intervals to be more or less thirty feet. But Peter of Ravenna instructed that they be five or six feet apart, which, on the basis of our experience, we adopt as the most serviceable. Nor should a location be higher than a person standing on the floor is able to touch with his hand, nor wider than the height of an average man" (Distantia inter locum et locum quincepedalis intercapendo sit: intervalla autem voluit Cicero esse mediocria ut paulo plus vel minus pedum tricenum. Sed quinque vel sex pedibus iubet distare Ravennas: quod opportunissimum experti sumus. Non enim altior erit locus quam in pavimento sistens manu contingere valeat: neque amplior erit statura mediocris viri; 27v-28r).

11. *Ad Herennium* 3.18.31. In his *De bono* commentary, Albertus Magnus does not refer to marking the tenth place. Quintilian does not say which places should be

marked. The Hermippus mentioned here may be Hermippus of Smyrna, a grammarian of the third century **B.C.E.** who wrote biographies of philosophers.

12. An illustration of a grid with twenty-five animals appears on the last page of the book.

13. The illogical title of this book probably resulted from a careless transposition. In the first of Ratdolt's editions (i482), the third book is called "The Third and Last Book of Images of Jacobus Publicius." In the second edition (1485/90), the topic of images was moved from the third to the second book but the title was incompletely changed.

14. This sentence, which is repeated in several fourteenth and fifteenth-century arts of memory, derives almost verbatim from Thomas Aquinas, *Summa theologiae* 2–2ae, Q.49.2.

15. *Effictio* (portrayal) is listed among the figures of thought in the *AdHerennium* 4.49.63.

16. The *notatio* described here, another figure of thought, is translated by Harry Caplan in his Loeb edition of the *AdHerennium* 4.50.63 as "character delineation." The term *notatio* is also used to refer to the marking of places above in Book i and in *Ad Herennium* 3.18.31.

17. *Definitio* is a figure of diction in *AdHerennium* 4.25.35.

18. Based on *Metamorphoses* 2. 769–78; as so often is the case with medieval citations, the wording does not quite accord with modern editions.

19. Based on *Metamorphoses* 11.593–615.

20. Varro's assertion is reported by Lactantius, *De opificio Dei* 8.6.

21. The "hidden part of the body" from which *femina* is derived is presumably *femur*, "thigh."

22. The "etymology" of the word *miser* is not clear in the Latin: "Miser nihil habet."

23. Here too the derivation is not obvious: "Dives pecuniis (affluit)."

24. Nor here: "Felix secundo sidere natus ad quem constellatione bona provenere."

25. Jacobus does not discuss etymology in any of his known works.

26. Ennius's famous line, "At tuba terribili sonitu taratantara dixit" (And the trumpet in terrible sound said 'taratantara,' *Annales* i40) was cited in many Latin rhetorical handbooks as an example of alliteration and onomotopoeia.

27. Although Jacobus uses the word *cornu* for "horn," the onomatopoeia refers to the Latin *tuba.*

28. Februus and Pluto are names for the god of the underworld. In mythology the goddess Proserpina spent three months of the year with her husband Pluto and nine on Olympus with her mother Ceres. Her ascent marked the onset of spring.

29. According to Du Cange's *Glossarium mediae et infimae latinitatis,* a *subuca* is a *fabrica ferraria* ("smithy"), but *subuculare* means *resarcire* ("mend"). So a *subucula* ("cotton shirt") could represent a blacksmith or a tailor.

30. Minerva was associated with handicrafts specifically and dexterity in general.

31. In ancient rhetoric, *ironia* is commonly defined as saying the opposite of what one means.

32. The source of this elegiac couplet remains unidentified. Rossi, *Clavis universalis* (25) writes that the authors of fourteenth-century arts of memory sometimes included summaries of their precepts in verse to facilitate their rapid acquisition by students; perhaps the "exceptional poet" is Jacobus himself.

33. In his artificial memory treatise entitled *Fenix,* Peter of Ravenna made similar claims about memorizing laws (Carruthers, *Book of Memory,* 109), but without reference to Camillus Iurisconsultus.

34. Jacobus is articulating the basic principle of fashioning an active image for

an abstract capacity. In a similar vein, Thomas Bradwardine (Selection 9) advises making an image of someone eating sugar for ''sweetness," or grimacing badly for "bitterness."

35. Both phrases describing the image resemble sounds in Virgil's line and play on multiple meanings of the Latin word *malus: Malus, -i* means "apple tree" or "mast," *malum, -i* "apple" or "evil." The first phrase means "in the altar of the fruit of the apple tree," the second "the timbers of a ship."

36. *Disco* can be either a first-person singular verb meaning "I learn" or a singular noun in the dative or ablative meaning "a discus." *Amo* is either a first-person singular verb signifying "I love" or a singular noun in the dative or ablative meaning "a hook" (written *hamo* in Classical Latin).

37. Although an illustration on this page portrays a nude woman and man standing with outstretched hands, no words or "piercings" are shown on the bodies. The male wears a codpiece, the female a banderole.

38. Reading *sepe* as a variant of *sepes,* the usual plural; see R. E. Latham, *Revised Medieval Latin Word-List,* s.v. *sepe.*

39. *Sistrum canis* can mean "the rattle of a dog" or "you make music with a rattle." *Sepe arma* can mean "arm frequently!" or "the arms in an enclosure."

40. In his *Boncompagnus* (i.5.7), Boncompagno da Signa refers to the comparison of wealthy doctors and poor philosophers that is also expressed in the couplet quoted by Jacobus: "Ecce Galienus ut eques falleratur gemmis et auro, et Aristotiles cum Platone pedes incedit."

41. Although Croesus symbolized a proverbially rich man far more often than Crassus did, Quintilian *(Institutio oratoria* n.2.50) cites "Crassus ille dives" as an example of a man known for his excellent memory.

42. Cf. *AdHerennium* 3.24.40.

43. Cf. *AdHerennium* i.2.3.

44. Sabinus of Ithaca (first-second century **c.E.)** wrote a commentary on Hippocrates.

45. This conception of the brain can be found in Galen, *De usupartium,* 8.14.

46. Bos (21) comments: "Ibn al-Jazzar closes his discussion of the ventricles and their activities with a citation ascribed to Proclus, stating that the posterior ventricle is the noblest ventricle of the brain. ... I have not been able to trace this citation, if authentic, by Ibn al-Jazzar."

47. The name Aristarchus is probably a corruption of Aristotle *(De memoria* 45Oa32), to whom Constantine the African attributes a similar statement. See *Liber de oblivione,* in *Constantine the African and Ali ibn al-Abbas al-Magusi: The Pantegni and Related Texts,* ed. Charles Burnett and Danielle Jacquart (Leiden: Brill, i994), 228.

48. In a similar passage Arnold of Villanova suggests that "artificial constricting substances" obtain this quality by being cooked. See "Aphorismi de memoria," in *Arnaldi de Villanova Opera Medica Omnia,* 6.2, ed. Juan Paniagua and Pedro Gil-Sotros (Barcelona: Universitat de Barcelona, i993).

49. Ibn al-Jazzar (44) cites this passage from Al-Tabari's *Firdaws al-hikma:* "Al-Tabari said: 'If one takes a hoopoe and hangs it on someone suffering from forgetfulness, he will remember what is forgotten.' " Constantine translates the name as "Tiberides." Arnold of Villanova, the most likely candidate for the "Arnold" referred to, does not mention the tongue of a hoopoe in his extant writings on memory.

50. This list of doctors also appears in Giordano Bruno's *De umbris idearum,* in the section on medical advice to strengthen the memory. Archigenes was a Roman physician from Syria (ca. 75-ca. 129 **C.E.).** The Alexander mentioned here may be Alexander of Tralles (ca. 525-ca. 605), a Greek physician whose works were much used in the Middle Ages, or Alexander of Aphrodisias, a Peripatetic philosopher who

flourished around 200. Andronicus of Rhodes, the author of a treatise *On the Emotions,* was a prominent Peripatetic in the first century **B.C.E.** The Greek philosopher Democritus (b. 460/467 **B.C.E.)** is occasionally credited with the discovery of the architectural mnemonic instead of Simonides (Yates, *Art of Memory,* 106–7).

51. Apparently one should project a square around the head of each figure in the picture alphabet. These images included, in the pages printed by Ratdolt (though Swalwell has a rather different group), a bull's head, a crab, a peasant, and many tools. The square *linea* (form) circumscribing each would permit one to make the various combinations with other letters made possible by Jacobus's diagram, as Johann Host von Romberch demonstrates (see the appendix to this selection).

12. Anonymous, *A Method for Recollecting the Gospels*

translated by James W. Halporn

Around 1470, a small blockbook, called in modern descriptions the *Ars memorandi,* was produced in South Germany, perhaps in a Bavarian monastery. The title of this anonymous text is taken from its opening words. The book with its brief text and diagrams on the facing pages may have been intended to help the cleric or interested layman remember in order the contents of each chapter in the four Gospels. Blockbooks, which appeared in the Netherlands and Germany in the fifteenth and early sixteenth centuries, developed alongside early printed books. In blockbooks both pictures and text were cut into blocks of wood and printed on paper. Unlike ordinary illustrated books in which the text is illustrated by pictures, in the blockbook the text does no more than comment on or explain the pictures. Among the most common blockbooks are the *Biblia pauperum* (*Bible of the Poor;* illustrated scenes from the Bible), the Apocalypse (Book of Revelation), and the *Ars moriendi* (*The Art of Dying,* or, less literally, "How to Die Properly").

The *Ars memorandi* is a small folio with no title page orcolophon. Pages are printed on one side only, with the consequence that blank pages separate the fifteen pairs of text and facing diagrams. In some copies of the work the blank pages have been glued together to create a continuous flow of text and illustration.

The popularity of this blockbook led to its imitation and expansion in latereditions that combined the woodcut illustrations with typeset text. The first new version, edited by Georg Simler, appeared in 1502 in two editions printed in Pforzheim by Thomas Anshelm (fl. 1485–1523). Simler's text begins, "Hexastichon Sebastiani Brant in Memorabiles Euangelistarum figuras." In this volume Simler created a new kind of book—no longer a pure blockbook. Having taken as his model the illustrations of the blockbook, he introduced prefatory verses by Sebastian Brant, Jodocus Gallus, and Georgius Relmisius Anipimius (the second name is an anagram of Simler) that explain the didactic intentions ofthis bookas an aid to remembering the Gospel texts. Simler's prose preface provides a context for the reader, citing the *Rhetorica ad Herennium* on how the memory is to be trained. Simler abbreviated the chapter summaries of the blockbook and changed them slightly. At the same time he introduced metrical summaries of the Gospel chapters, which he took from the *Roseum memoriale* of

Peter of Rosenheim (c. 1380–1433), prior of the Abbey of Melk, a book written around 1430 and also intended to imprint the content of the Gospel chapters in the readers' minds. In the *Roseum memoriale* each chapter of Sacred Scripture is given a Latin distich. An "epilog" (as it is called in the text) that precedes these distichs offers another set of distichs as a means of locating a specific text. The text of the Gospel distichs differs only in minor details from that given in the 1502 version of Anshelm's publication.

In Simler's book the printed texts and the newly cut blocks face one another. The fifteen illustrated blocks in this edition are more nuanced and sophisticated than those in the earlier completely xylographic book. It is unlikely that Anshelm himself was involved in the recutting of the almost thirty-year-old blocks from the Bavarian *Ars memorandi.* They are the creation of an artist who was employed by Anshelm in Pforzheim and who is known only as the Master of the Pforzheim Workshop.

About the Drawings

The drawings made by Collin McKinney for this translation are based on the copy in the Pierpont Morgan Library, New York PML 272 (used with permission of the Pierpont Morgan Library).The outlines of the originals have been retraced, their Latin titles translated into English and repositioned from the middle of the figure to the upper margin, and the Gothic-style numbers presented in a modern typeface. Though there are too many to reproduce the original of each figure, we have included one (the Fourth Image of Luke) as an example. Readers are encouraged to study each picture in relation to the brief summary of chapters that accompanies it, in order to work the correspondences out for themselves, the way a medieval preacher would have. Sometimes the images refer directly to things mentioned in the chapter; sometimes they epitomize the main theological topics of a chapter; sometimes they serve as a visual pun on some keywords in a chapter. Readers are also encouraged to work out for themselves how the internal order of the images in each element of the pictures is determined. For those who remain mystified, a modern guide to the illustrations has been provided as an appendix after the translation. It should be stressed that no such guides existed in the original work or any of its medieval or Reformation versions.

SOURCE: Translated from *Ars memorandi,* text in Library of Congress, Washington D.C., Incunable X.A88 (Rosenwald Collection).

FURTHER READING

Ars Memorandi: A Facsimile of the Text and Woodcuts printed by Thomas Anshelm at Pforzheim in 1502. Cambridge, Mass.:

Houghton Library, Harvard University Department of Printing and Graphic Arts, 1981.
Bolzoni, Lina. “The Play of Images.The Art of Memory from Its Origins to the Seventeenth Century.” In *The Enchanted Loom: Chapters in the History of Neuroscience,* ed. Pietro Corsi. New York: Oxford University Press, 1991.14–65.
Driver, Martha W. “The Image Redux: Pictures in Block-Books and What Becomes of Them.” In *Blockbücher des Mittelalters: Bilderfolgen als Lektüre,* ed. Cornelia Schneider, Sabine Mertens, et al. Gutenberg Museum, Mainz. Mainz: Philipp von Zabern, 1991. 341–52.
Hagelstange, Alfred. “Die Holzschnitte des Rationarium Evangelistarum.”*Zeitschrift für Bücherfreunde* 9 (1905–6): 1–21.
Hind, Arthur M. *An Introduction to a History of the Woodcut.* New York: Dover, 1963. 254, 256.
Massing, Jean Michel. “From Manuscript to Engravings: Late Medieval Mnemonic Bibles.” In *Ars memorativa: Zur kulturgeschichtlichen Bedeutung der Gedächtniskunst, 1400–1750,* ed. Jörg Jochen Berns and Wolfgang Neuber. Tübingen: Max Niemeyer, 1993.101–15.
Schreiber, Wilhelm Ludwig. *Manuel de l’amateur de la gravure sur bois et sur metal au XVe siècle.* 8 vols. in 9. Berlin: A Cohn, 1881–1911. For the *ars memorandi* blockbooks, see vol. 4:134 ff.
Thoma, Franz X. “Die Beziehungen des Petrus von Rosenheim zu den Xylographa der Ars memorandi und zu den Frühdrucken des Rationarium Evangelistarum.” *Zentralblatt für Bibliothekswesen* 46 (1929): 533–46.

–James W. Halporn

A famous method using the images of the Evangelists worked out in what follows through visible devices for locations, which the careful reader may diligently read and try out so that he may experience them in practice.

The Gospel of John has twenty-one chapters.

The first image of John

1. In the beginning was the Word; on the eternity of the Word and on the Trinity.

2. There was a marriage made in Cana of Galilee; and how Christ overturned the tables of the money-changers.

3. And there was a man of the Pharisees named Nicodemus.

4. How Jesus asked the Samaritan woman for a drink at Jacob's well and on the rule.

5. On the pond [*piscina]* called Probatica [Bethsaida, Bethesda] where Jesus said to the sick man "Take up thy bed and walk."

6. On the feeding with five loaves and two fishes and on the Eucharist.

The first image of John

The second image of John

7. On the Scenopegia or Feast of Tabernacles in Jerusalem where Jesus said, “Go you up to this festival day.” “If anyone thirsts,” and so forth.

8. On the woman taken in adultery; “I am the light of the world,” and so forth.

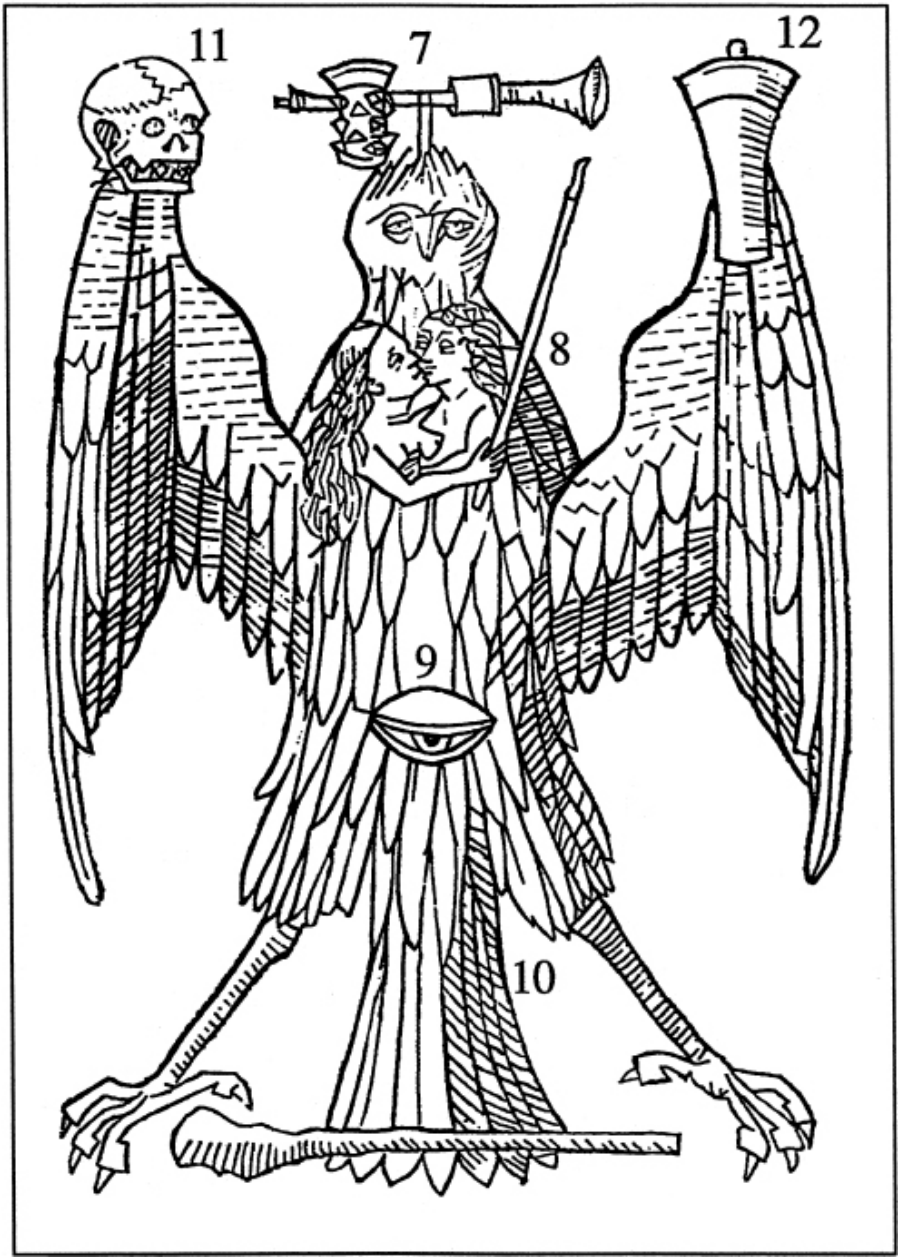
9. On the man born blind whom Christ made to see, and so forth.

10. On the Good Shepherd in every respect, and so forth.

11. On the raising of Lazarus from the tomb.

12. On Mary Magdalene who anointed the feet of Jesus.

The second image of John



The third image of John

13. How on the day of the festival of the Passover Jesus washed the feet of the disciples.

14. “Let not your heart be troubled, nor let it be afraid” and he says many consoling words.

15. “I am the true vine” and “you are the branches.”

16. “These things have I spoken to you, that you may not be scandalized and they will put you out of the synagogues.”

17. Jesus prayed to His Father, “Now Father glorify thy Son.”

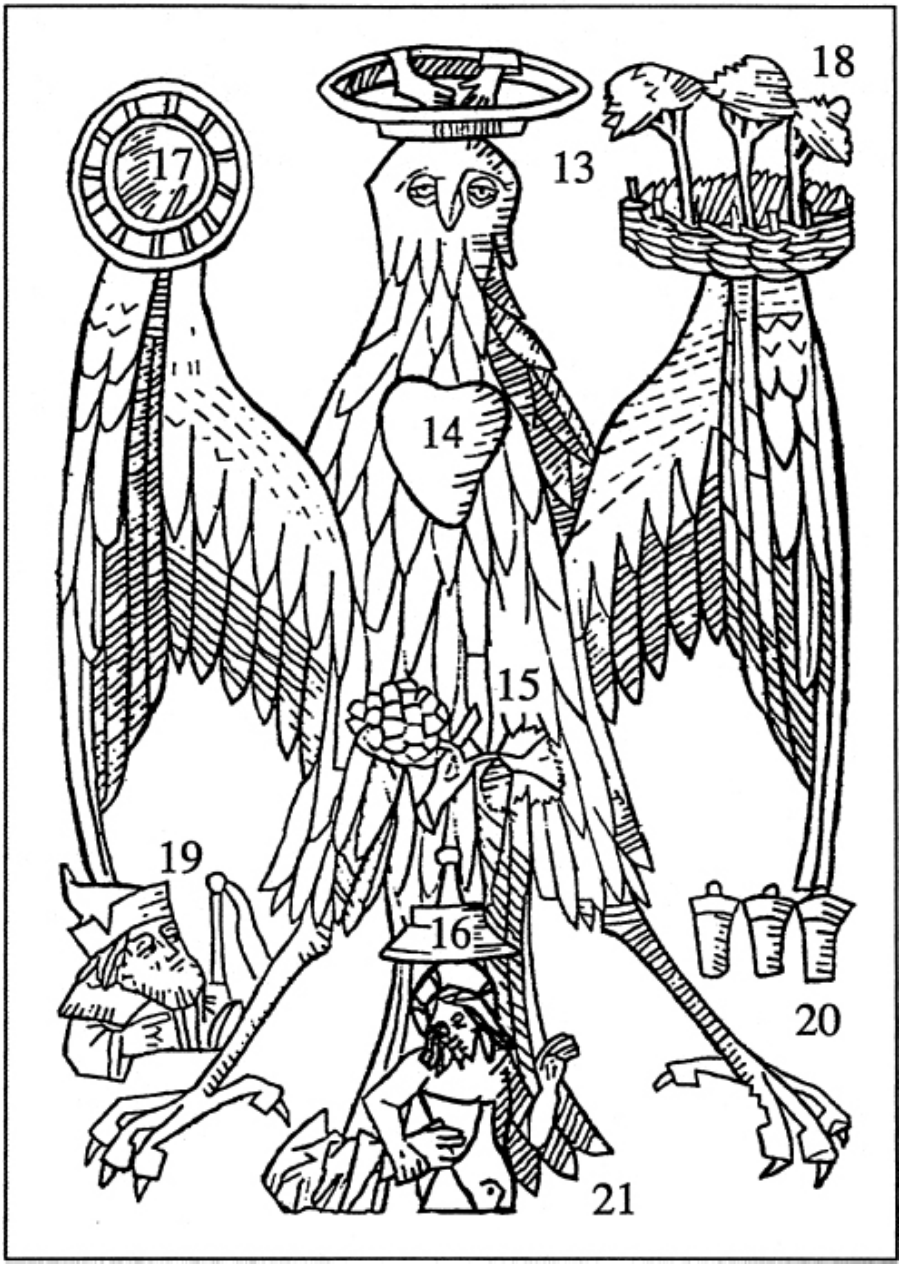
18. Jesus went forth over the brook of Cedron where it arose.

19. Then Pilate took Jesus and scourged him and so forth.

20. “And on the first day of the week,” on Mary Magdalene and the others, and so forth.

21. On the manifestation of Jesus after his resurrection.

The third image of John



The Gospel of Matthew has twenty-eight chapters.

The first image of Matthew

1. The Book of the Generations of Jesus Christ, the son of David. And how the angel appeared to Joseph in his sleep comforting him, and so forth.

2. On the coming of the three wise men with gifts, and so forth.

3. On the baptism of John and the baptism of Christ, and so forth.

4. On the temptation of Christ in the desert by the devil.

5. Seeing the multitudes, Jesus went up into a mountain. On the eight beatitudes.

6. How one ought to give alms and how to pray, and so forth. And on the birds of the air which do not sow nor spin nor toil, and so forth.

The first image of Matthew

The second image of Matthew

7. “Judge not,” and so forth. On the narrow gate which leads to life and on the beam in one’s own eye.

8. On the servant of the centurion whom Jesus cured and on the

tempest on the sea which Jesus settled.

9. On the calling of Matthew and on the paralytic whom Jesus healed, and so forth.

10. On the summoning of the disciples. And he gives them the power of binding and loosening.

11. On the deputation of John the Baptist, and he teaches how to take up one's yoke.

12. On the casting out of the devil. And how the disciples plucked ears of corn.

The second image of Matthew

The third image of Matthew

13. Jesus tells parables of the seed and the sower.

14. On the beheading of John and the feeding from five loaves.

15. On the unwashed hands and on the Canaanite woman whose daughter Jesus healed.

16. On the sign of Jonah the prophet and on the reply of Peter, and so forth. “Thou art Peter and upon this rock I will build my church.”

17. Jesus took Peter, James, and John, and so forth. And before them he was transfigured.

18. On the child whom Jesus set in their midst, and so forth. And he teaches them to forgive seventy times seven.

The third image of Matthew

The fourth image of Matthew

19. On the union of marriage. And on the great commandment of the law, and so forth.

20. On the hired laborers in the vineyard. On the sons of Zebedee.

21. On the colt and the she-ass. And on the children singing: “Hosanna

to the son of David.”

22. On the great feast which a certain man made. And on the giving of tribute to Caesar.

23. The scribes and the Pharisees were sitting on the chair of Moses.

24. There will be signs in the sun and moon and the stars, and so forth.

The fourth image of Matthew

The fifth image of Matthew

25. On the ten virgins, how the kingdom of heaven is like to ten virgins which taking their lamps went out to meet the bridegroom and the bride.

26. “You know that after two days shall be the Passover,” and the feast day of the Jews.

27. When morning came the Jews took counsel to hand over Jesus.

28. On the night before the first day of the week which dawned. On the resurrection of Christ, and so forth.

The fifth image of Matthew

The Gospel of Mark has sixteen chapters.

The first image of Mark

1. On the baptism of Christ in the Jordan by John and his temptation in the desert.

2. How the disciples gathered ears of grain. And on the sick man to whom Jesus said, “Take up thy bed.”

3. Jesus drove out the demon and it was dumb, and so forth.

4. On the parable of the sower and the seed. And on giving good measure, and so forth.

5. On the daughter of the ruler of the synagogue whom Christ healed, and so forth.

6. A prophet is without honor in his own country. On the beheading of John the Baptist.

The first image of Mark

The second image of Mark

7. On the unwashed hands and on the daughter of the Canaanite woman whom Christ healed.

8. On the seven loaves with which Christ satisfied [the crowd], and so forth. On the episcopacy of Peter and on the blind man restored to sight.

9. On the transfiguration of Christ and the removal of the demon by prayer and fasting.

10. On the union of marriage and on the sons of Zebedee. And on the rich man and the camel .

11. On the she-ass and her colt. On the children of the Hebrews.

12. On the vine-dressers who killed the heir. On the giving of tribute to Caesar, and so forth.

The second image of Mark

The third image of Mark

13. On the signs of the coming of the Lord; on false prophets who saw the Son of man coming in the clouds of heaven with power and great majesty, and so forth. “Heaven and earth will pass away, but [my] words,” and so forth.

14. It was two days before the Passover, and so forth.

15. And straightway in the morning they took counsel.

16. When the Sabbath was passed Mary Magdalene and Mary, and so forth. On the rising of Christ into heaven and the sending of the Holy Spirit, and so forth.

The third image of Mark

The Gospel of Luke has twenty-four chapters.

The first image of Luke

1. On the angel who appeared to Zachary and on the birth of John the Baptist.

2. On the birth of Christ and his circumcision and presentation in the

temple.

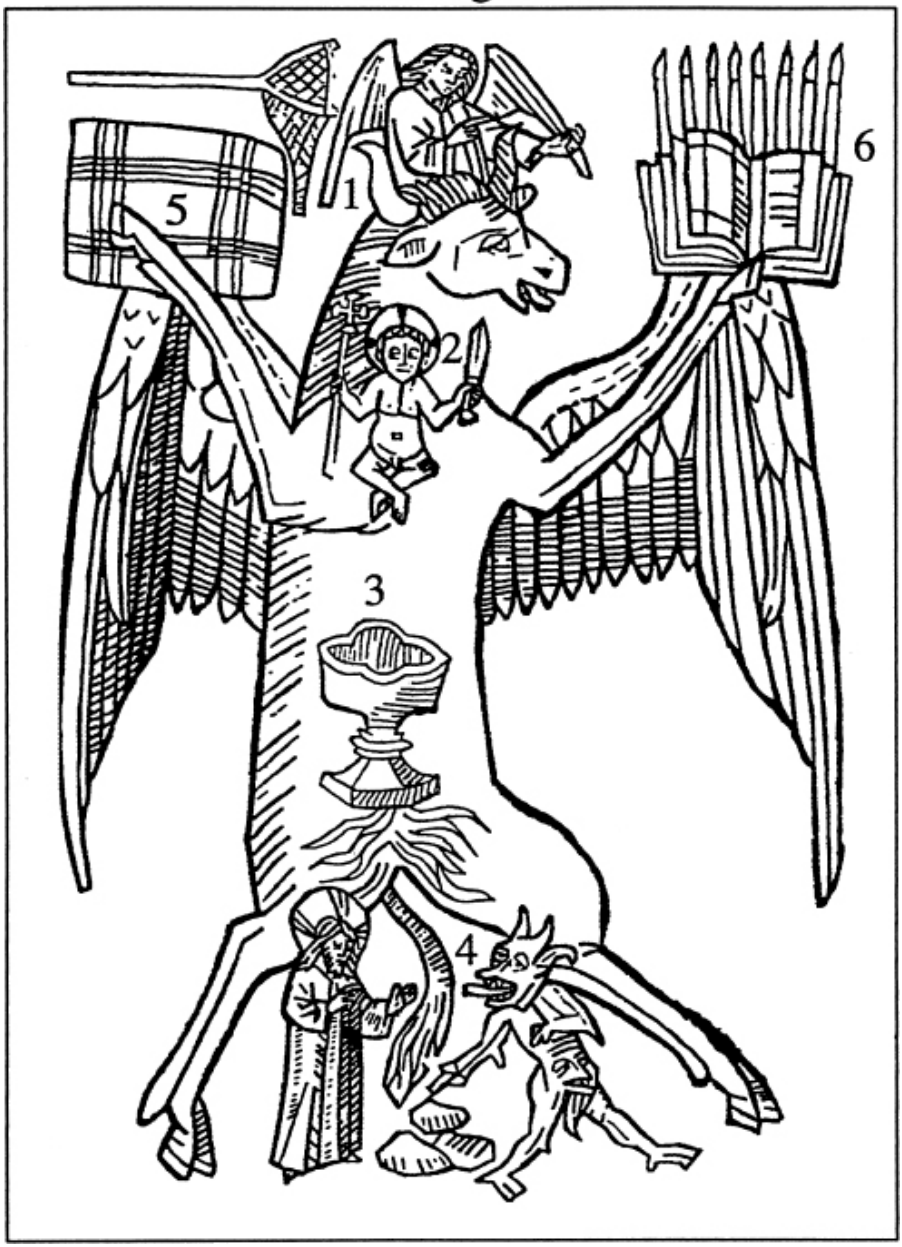
3. On the baptism of Jesus by John in the Jordan.

4. But Jesus full of the Holy Spirit returned from the Jordan and was led into the desert.

5. On the net of Peter cast on to the sea and on the bed of the sick man.

6. Jesus preaches the eight beatitudes, “blessed are the poor,” and so forth.

The first image of Luke



The second image of Luke

7. The penitence of Mary Magdalene who anointed the feet of Jesus.

8. Jesus tells of the seed and on the storm which Jesus calmed in the sea, and so forth.

9. On the transfiguration of Christ. On the five loaves. And on the

reply of Peter to Christ, “You are the son,” and so forth.

10. On the two sisters, that is, Martha and Mary Magdalene. And a certain man fell among thieves, and so forth.

11. “Lord, teach us to pray,” and so forth. And on the driving out of demons, and so forth.

12. On the faithful servant and “where your treasure is, there will your heart be also.”

The fourth image of Matthew

The third image of Luke

13. On the barren tree which the Lord wished to cut down, and so forth.

14. When you shall be invited to a wedding. And on the man with dropsy whom Christ cured, and so forth.

15. On the prodigal son to whom the father gave part of his property.

16. On the unjust steward, and so forth. On the rich man and the beggar, and so forth.

17. It is necessary that scandals come. But woe to that man through whom scandals come. On the healing of the ten lepers, and so forth.

18. Two men went up to the temple, and so forth. “Behold we go up to Jerusalem.”

The third image of Mark

The fourth image of Luke

19. Jesus entered and was passing through Jericho. Seeing the city [of Jerusalem] Jesus wept over it.

20. On the vine-dressers who killed the heir and on the giving of tribute to Caesar.

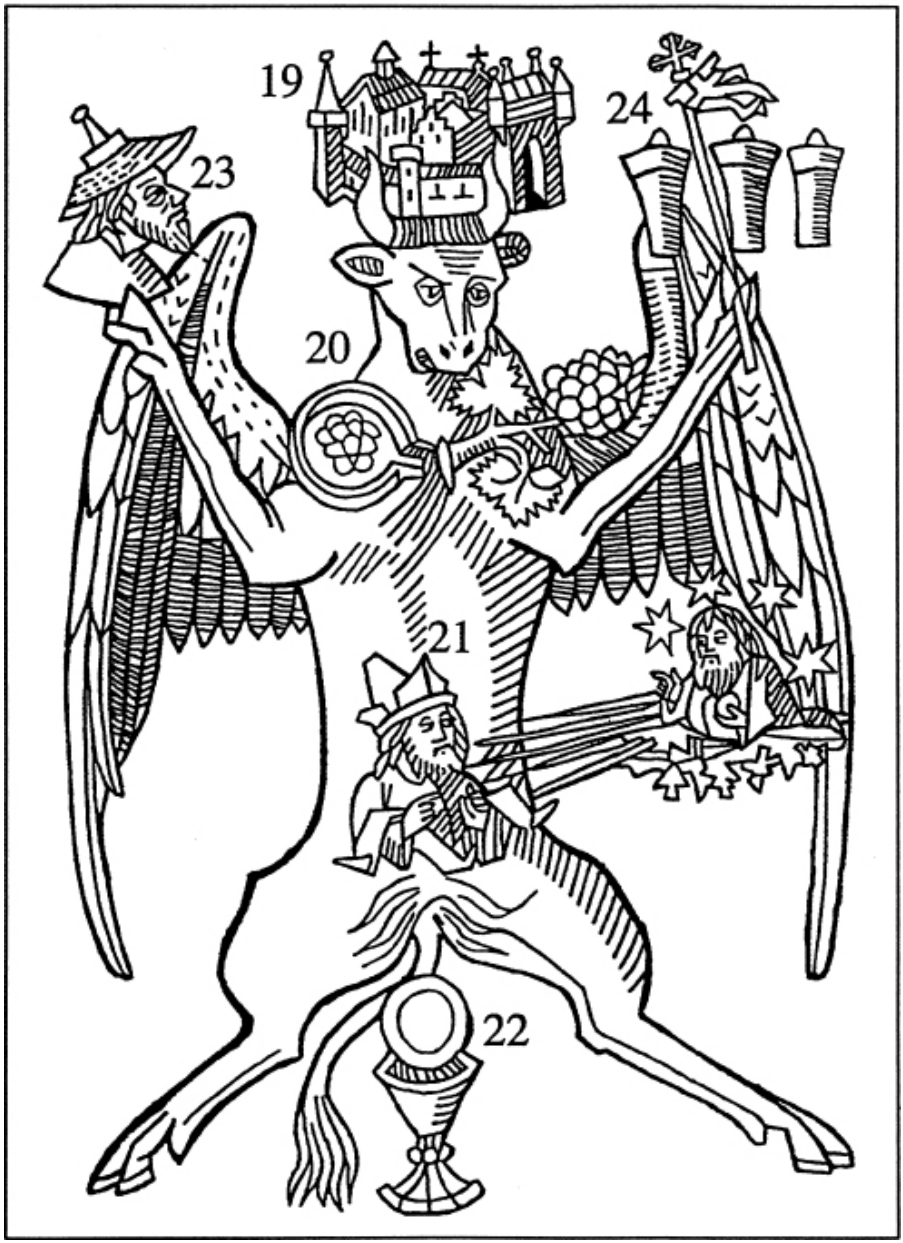
21. Watch out for false prophets. There will be signs on the sun and moon. “Heaven and earth shall pass away,” and so forth.

22. But there was at hand the feast of the unleavened bread, the Passover, and so forth.

23. On the judgment of Pilate. On the counsel of the Jews against Jesus.

24. And on the first day of the week. On the resurrection of Christ and his manifestation after the resurrection and his appearance in Emmaus.

The fourth image of Luke



A Guide to the Illustrations in the *Ars Memorandi*

(The explanations that follow are taken largely, with corrections and additions, from Schreiber, *Manuel,* 4:134–45, translated by James W. Halporn)

In the illustrations each of the evangelists is represented by his traditional symbol: an eagle for John, a man for Matthew, a lion for Mark, an ox for Luke. The illustrator provided the man, lion, and calf with wings as is typical in medieval portrayals of the symbols, for these figures recall the "living creatures" in the vision of the prophet Ezekiel (Ezek. 1 and 10; cf. Rev. 4). Each of the figures is used like a heraldic armature to which the illustrator adds images, keyed by numbers, to events in each Gospel text. For the aid of a modern reader the visual vocabulary is explained below (in these explanations references to "right" and "left" in the illustrations designate the opposite of what the viewer sees; as was usually the case in memory manuals, left and right are relative within the picture, not to the viewer). The numerical keys of the illustrations are indicated in parentheses.

John 1. In the first diagram we see a large eagle, the symbol of John, filling the entire page. On the head of eagle (1) perches a dove, and on each side of the bird's head are the heads of two differentiated male figures: Christ on the right, a fuller bearded God the Father on the left. The dove, together with the two heads, signifies the Trinity to illustrate chapter 1 of the Gospel of John. Below, a lute (2) represents the marriage at Cana and three purses denote the driving of the money-changers from the Temple at Jerusalem. Below the purses is a vulva (3) cut into the body of the eagle, to recall the words Jesus addresses to Nicodemus "unless a man be born again." Below the tail of the eagle (4) a bucket and a crown symbolize the meeting of Christ with the woman of Samaria and the healing of the son of a ruler. In the upper right, atop the wing, a fish (5) represents the pool of Bethsaida. In the upper left, atop the wing, a plate with a cross (6) surmounts five loaves and two fishes. The two objects last mentioned stand for the feeding of the five thousand, and the plate embodies the Eucharist.

John 2. At the head of a somewhat shortened eagle a flag, a flute, and a cup (7) mark the Feast of Tabernacles. On the breast of the eagle the heads and upper torsos of a naked pair appear (8); the male figure holds a long taper. These symbolize the couple caught in adultery, with the candle figuring the light of the world. An eye (9) connotes the man who was born blind. At the tail feathers of the eagle a club (10) symbolizes the good shepherd. Atop the right wing a skull (11) indicates the resurrection of Lazarus. Atop the left wing a perfume bottle (12) reminds us of the episode in which Mary anoints the feet of Jesus.

John 3. On the head of the eagle, a basin with a foot and a hand (13) connotes the scene in which Jesus washes the feet of his disciples. On the breast of the eagle a wounded heart (14) recalls the farewell of

Jesus from his disciples. A pointing hand with a grapevine behind it (15) represents the parable of the vine. Below this, the typical medieval hat of a Jew (16) signifies the synagogue. A disk, standing for the world (17), appears on the top of the eagle's right wing; the garden of Gethsemane (18) appears on its left. At the bottom of the right wing, Pontius Pilate (19) holds a whip in his left hand and points with his right hand. At the bottom of the left wing sit the three pots of ointment (20) brought to the tomb of Jesus. At the base of the diagram, we see the risen Jesus putting the hand of Thomas into his side (21).

Matthew 1. An angel (a male figure with wings) symbolizes Matthew. Over the angel's head the divine child (with a cross-inscribed halo) and a kneeling angel indicate the Annunciation (1). The three crowns (2) on the angel's breast symbolize the wise men. A baptismal font (3) represents the baptism of Jesus by John. At the feet of the angel is Satan (4) with the stones of the temptation (three stones on the ground indicate the mountain). The angel holds in his right hand a book with eight candles (5) representing the Beatitudes. In his left hand the angel holds a loaf on which two birds are feeding (6). The loaf signifies the way of giving alms, the birds, the "birds of the air."

Matthew 2. On the head of the angel are three objects that embody chapter 7: the scepter (on not judging); the beam that runs through an eye; the narrow gate ("narrow is the gate"). On the breast of the angel a nude man rowing in a boat (8) represents the cleansing of the leper and the settling of the tempest at sea. Below the boat the crutch of the paralytic and the purse of the publican (9) appear. At the feet of the angel a group of men with halos (10) symbolizes the meeting of the apostles. In his right hand the angel holds a platter with the head of John the Baptist (11) signifying John in prison, and in his left hand a bundle of grain that a devil is trying to seize (12), representing the gathering of ears of grain by the disciples and the healing of the demoniac.

Matthew 3. On the head of the angel a sack of seed (13) recalls the parable of the sower and the seed. Hanging from his neck are the five loaves (14), symbolizing the feeding of the crowd. A hand stretched out in blessing and a dog with a loaf in its mouth (15) allude to the healing of the daughter of the woman of Canaan. At the feet of the angel (16) Jonah coming out of the whale's mouth symbolizes Jesus's reply to the Pharisees who asked for a sign, and the key of Peter reminds us of Peter's confession that Jesus was the son of God. In his right hand (17) the angel holds an image of the sun to mark the Transfiguration. In his left hand (18) the angel supports a child whose head has a halo with a cross and behind the figure radiate the seven

keys of forgiveness, to mark the child whom Jesus set in the midst of the disciples and Jesus' reply to Peter on how many times a man shall forgive his brother.

Matthew 4. Over the head of the angel are a man's and a woman's hand clasped (the difference of the sexes is marked by the open and the tight sleeve) to symbolize marriage (19). On the breast of the angel the shoot of the vine (20) reminds us of the parable of the laborers in the vineyard. The head of a she-ass (21) signals the arrival of Jesus in Jerusalem. At the feet of the angel (22) a table with dishes marks the marriage feast and, alongside, a counter with pieces of silver recalls the paying of tribute to Caesar. In his right hand (23) the angel holds the chair of Moses on which the scribes and Pharisees sit, and behind his left hand are the sun, moon and stars (24), the signs of the last days.

Matthew 5. Five lamps (25) at the top of the head of the angel represent the wise virgins. Hanging from the angel's neck, a Host symbolizes the Last Supper (26). The heads of a scribe and a chief priest (27) mark those who took counsel against Jesus. At the feet of the angel (28) three pots of ointment represent the coming of the women to the tomb of the risen Jesus.

Mark 1. A rampant lion stands for Mark. Above the lion's head a baptismal font and three stones (1) figure the baptism and temptation of Christ. On the breast of the lion a pillow and a sheaf of grain (2) symbolize the healing of the paralytic and the collection of the ears. A devil with a broken back (3) signifies the expulsion of the demons. Between the rear feet of the lion appear a sack of grain, a measure, and a scraper to represent three parables (4). Above the right foreclaw of the lion is the head of the Jew, Jairus, whose daughter Jesus healed (5). Above the left foreclaw is the head of John the Baptist on a platter and the bust of a prophet reading a scroll (6), symbolizing the prophet who is without honor in his own country.

Mark 2. Above the head of the lion a hand stretched out in blessing and the head of a dog with a loaf in its mouth (7) symbolize the woman of Canaan whose child Jesus healed. At the neck of the lion the key of Peter, the eye of the blind man, and the seven loaves (8) represent respectively Peter's acknowledgment of Christ, the healing of the blind man, and the feeding of the multitude. Coming out of the chest of the lion a demon (9) signifies the casting out of demons and behind the chest is the sun of the Transfiguration. Between the rear paws of the lion (10) are a needle with a small eye that seems to go through the left leg of the lion, reminding us of the rich young man; the net of the sons of Zebedee; and the hands of a man and woman (distinguished by the open and closed sleeve) clasped to indicate marriage. A she-ass (11), representing the entrance of Jesus into

Jerusalem, has its left rear leg in the right foreclaw of the lion. On the left foreclaw a counter with coins symbolizes the payment of tribute to Caesar and a shoot of a broken vine (12) recalls the parable of the wicked keepers of the vineyard who slew the son of the owner.

Mark 3. Above the head of the lion is the false prophet (13). He looks towards Jesus who is surrounded by clouds and stars. Just below the head of the lion a chalice and Host (14) symbolize the Last Supper. At the waist of the lion are the heads of a scribe and a chief priest (15), representing those who took counsel against Jesus. Between the rear legs of the lion three pots of ointment (16) signify the women coming to the tomb of the risen Jesus.

Luke 1. A winged calf represents Luke. Above the head of the calf a pointing angel (1) stands for the Annunciation. On the neck of the calf a child with a crossed halo (2) holds a scepter and knife (signaling the Circumcision). Below a baptismal font marks (3) the baptism of Jesus. At the back feet of the calf Christ chases away a devil who points to three rocks (4), symbolizing the temptation of Jesus in the desert. At the right foreleg of the calf are a pillow, for the paralytic, and a fishing net for the net that Peter tossed into the sea (5). Above the left foreleg of the calf a book with eight candles (6) represents the Beatitudes.

Luke 2. Above the head of the calf appears the alabaster jar of the sinner (7). Below the head of the calf (8) a sack of seed and a boat stand for the parable of the sower and the storm at sea. At the waist of the calf (9) are the five loaves to indicate the feeding of the multitude, the key of Peter to symbolize Peter's recognition of Jesus as the son of God, and the sun of the Transfiguration. Between the back legs of the calf (10) are Martha and the sword of the thief. At the left foreleg of the calf (11) are a broken demon and a set of rosary beads, representing the casting out of devils and the proper way to pray. At the left foreleg of the calf (12) a treasure box, and above it, a heart symbolize the place where one's treasure is.

Luke 3. Out of the head of the calf grows the barren fig tree (13). At the neck of the calf (14) are a nude man (the man with dropsy whom Jesus healed) and a table set for the wedding. At the waist of the calf (15) the hand of the father places a purse of silver in the hand of the Prodigal Son. Between the rear legs of the calf (16) are the chariot of the unjust steward and the dogs licking the sores of Lazarus. The left foreleg of the calf (17) holds a leper's clapper and above this is the head of the calumniator with a stopper in his mouth. Above the left foreleg (18) are the publican and the Pharisee at the foot of the cross.

Ars Memorandi (ca. 1470), fol. 30r. Pierpont Morgan Library, New York, PML 272. Photo: Joseph Zehavi.

Luke 4. On the head of the calf is the city of Jericho (19), over whose fate Jesus wept. On the chest are a counter with coins and the shoot of the vine (20), symbolizing the tribute owed to Caesar and the wicked workers who killed the son of the master of the vineyard. Below is the head of the false prophet (21), to whom Jesus appears surrounded by four stars above the clouds, signifying the last days. Between the rear legs of the calf are the chalice and Host for the Last

Supper (22). Above the right foreleg of the calf (23) the head of a Jew (not Pilate; note the Jewish hat) represents the assembly of Jews who accused Jesus before Pilate. In its right foreleg (24) the calf holds the flag of victory below which are the three pots of ointment brought by the three women to the tomb.

Through these fifteen images the reader and viewer are given an aid for remembering at least one event of each chapter in the Gospels. Sometimes the symbols chosen relate to events at the very beginning of the relevant chapter; often, however, they pertain to scenes of events elsewhere in the text. Some of the aids to memory are striking and unusual, thus conforming to the recommendations of memory treatises. The vulva in the eagle (John 1) is a startling symbol of Jesus' telling Nicodemus he must be born again. Vivid, too, is the scene of the dogs licking the sores of Lazarus (Luke 3), as is the figure of the man with a stopper in his mouth, to represent how to avoid scandal (Luke 3).

What is omitted from the aide-mémoire is also extraordinary. To choose only the most obvious events, there are no references to the Agony in the Garden, the betrayal of Judas, the crucifixion, or the last words of Christ. Are we to assume that these scenes were omitted because they would have been known from the Stations of the Cross on the walls of the church? There is no obvious explanation.

Appendix: Two Texts on Rhetorical *Memoria* from Late Antiquity

Consultus Fortunatianus, *On Memory* translated by Jan M. Ziolkowski

Consultus Fortunatianus was a fourth-century rhetorician who wrote a three-book art of rhetoric in dialogue form. He was almost certainly a Christian. He evidently wrote before 435, for his work was used by Martianus Capella. In his pronouncements on memory Fortunatianus follows Quintilian (*Institutio oratoria* 11.2), who is his principal source throughout. His consideration of memory comes in the third book, where Fortunatianus deals with the four canons apart from invention. Fortunatianus was in turn used heavily by Cassiodorus, who commended particularly his writing on rhetorical *memoria.*

According to both Quintilian and Fortunatianus, memory requires a combination of innate talent and training. Fortunatianus gives a genealogy of the formal art of memory, beginning with the famous episode of Simonides and the banquet and passing through Charmadas and Metrodorus Scepsis. Fortunatianus distills their teachings into the paired mnemotechnical tasks of division and composition. In other words, the best way to memorize is to divide into sections, to concentrate attention, and to join the parts together in order. Fortunatianus recommends close reading, marking the text, repeating the key parts aloud, and writing them down on wax tablets. He urges students to train their memories in accordance with a hallowed progression—first poetry, then orations, and finally legal writings. Not all memorization must be word for word, since when time is pressing the person memorizing should strive to remember the content but not the actual wording. But under no circumstances should the person need to consult a book orto be prompted. Fortunatianus uses the phrases of ancient mnemotechnic, including *memoria verborum* and *memoria rerum,* but he gives no examples of making unusual mnemonic images in active scenes, such as those described in the *Rhetorica ad Herennium.* His mnemotechnic is addressed more to the tasks of reading and reciting than to facilitating extempore speaking.

This translation is made from the text in Carolus Halm, *Rhetores latini minores* (Leipzig: Teubner, 1863), which also contains the text of

Julius Victor's rhetoric and those of a numberof other late classical Latin rhetoricians.The translation has been corrected from the critical edition of Lucia Calboli-Montefusco (Bologna: Pàtron, 1979), who also provides the most complete introduction available to Fortunatianus's career and work, including establishing that his proper name was "Consultus," not (as many scribes wrongly wrote) "Chirius Consultus."

–Jan M. Ziolkowski and Mary Carruthers

SOURCE: Translated from *Ars rhetorica,* Book 3, chapters 13–14, text in Carolus Halm, *Rhetores latini minores* (Leipzig: Teubner, 1863), 128–30; translation corrected from the critical edition of Lucia Calboli-Montefusco, *Consulti Fortunatiani Ars rhetorica* (Bologna: Pàtron, 1979).

Of what sort is memory? Natural and artificial. These two are so intermingled that natural memory must be preserved by art and artificial must be aided by nature. Why is it so? Because each of the two is unstable without the other.

What must be observed in every kind of memory? That we not only retain securely but also that we grasp it swiftly. Only written things? On the contrary: also those that are thought.

And those statements made by the opposing party, will we always refute them in the order in which they have been stated? Not always, but we ought to arrange them in appropriate places.

What carries the most weight in memory? The attention of the mind, by which we almost see what we are saying if indeed, as we are saying some things, we see in advance others that we are going to say.

Who first demonstrated the art of memory? Simonides. What do we infer from Simonides's feat in connection with the banquet? That memory is assisted when places are assigned in the mind. Then we will assign some kind of sign in the likeness of what has been written or thought.

Who made use of this practice? Charmadas [fl. ca. 107 B.C.E.] and Metrodorus of Scepsis [ca. 70 B.C.E.]. What method for memory is superior and simpler? That if a speech is on the long side, it should be learned in parts. Why so? Because certain limits must be given, so that first continuous and repeated meditation may join together the verbal context, which is most difficult, and then an ordering, when recalled, may join together the parts themselves; and let us record some marks beside those parts that have proved most difficult, and let us repeat them often, and let us learn them from wax tablets on which we have written them.

How should we learn them? In a low voice or rather in a murmur, in the same way so that we may often test ourselves to determine

whether or not we are retaining it.

What assists the memory most? Division and composition: for order preserves memory powerfully, as we have gathered from Simonides's banquet.

What is the greatest craft of memory? Practice and toil.

How will we practice it? First in poems, then in speeches, and finally in more difficult works, such as legal writings.

Why do we retain more readily and securely what we meditate upon at night? Because our attention is never distracted and after this thought or reading we think over nothing further in our mind but instead at once take our rest.

Should we always memorize verbatim? If time permits, yes; if not, we will retain only the substance and later will match words to it extemporaneously.

What else shall we observe in the craft of memory? We must not fall into the habit of making allowances for ourselves; for it is a great fault to need prompting and, when speaking, to consult a book.

If by nature memory is very hard and time does not permit, what shall I do? You will not oblige yourself to know everything word for word; for forgetting one word might bring either an unattractive hesitation or even silence.

C. Julius Victor, *On Memory* translated by Jan M. Ziolkowski

C.Julius Victor, a rhetorician of the fourth century, is known solely through his *Ars rhetorica (Art of Rhetoric),* which draws heavily on Cicero and Quintilian. In the following brief extract Julius Victor first quotes Cicero verbatim and then paraphrases in abridged form two different passages from Quintilian.

Julius Victor was himself pillaged by the authors of later rhetorical textbooks, notably, in a treatise *De rhetorica et virtutibus (On Rhetoric and Virtues)* Charlemagne's education adviser, Alcuin of York (ca. 730–804), relied extensively on Victor's treatment of the four canons of rhetoric, apart from Invention — Disposition, Style, Memory, and Delivery. Victor was influential not only positively, through his coverage of these four canons, but also negatively, through his reduction of the treatment of memory to a single paragraph. Furthermore, within his brief discussion of memory Victor makes a dismissive pronouncement on arts of memory that use places and images, since he favors instead verbatim memorization (presumably through a process closer to rumination in the early medieval manner). At the end of this passage Victor refers to the "division" and arrangement or "composition" of

texts. By the first of these terms he means dividing a text into segments for memorization, by the second putting the segments in order. Like Fortunatianus, Victor relies heavily on Quintilian's method rather than any resembling that described in the *Rhetorica ad Herennium, a* text he was not likely to have known directly, since it was only reissued during the later fourth century.

–Jan M. Ziolkowski

SOURCE: Translated from *Ars rhetorica,* Chapter 23, text in Carolus Halm, *Rhetores latini minores* (Leipzig: Teubner, 1863), 440.

Memory is the firm mental grasp of things and words for the purpose of invention. About it Cicero states *(De oratore* 1.5.18): "What should I say about the treasure house of all things, memory? If it is not engaged as guardian over things and words that have been thought out and invented, we know that all of them will amount to nothing, even if they were most outstanding when they occurred to the orator." To achieve memory, many people offer precepts on places and images, which seem to me not to be effective. The memory should be trained in learning by heart and word for word as many writings as possible, both your own and those of others, even though it mightily displeases Quintilian *(Institutio oratoria* 2.8.1–3) for students to learn by heart their own writings as a form of training; in fact, he recommends very much that they write their own writings but that they learn by heart passages from orations, histories, or writings in other genres by worthy writers. In this way we will strengthen the memory, will habituate it to the best writings, will always have with us something to imitate, and will reproduce unconsciously the style of the speech that we have impressed entirely upon our minds. Division and arrangement *(Institutio oratoria* 11.2.36–39) will be very useful in retaining what we will never commit in error. Not only in laying out questions but also in following through with them, certain principles are fixed. If the first, second, and so on connect, nothing can be omitted through forgetfulness, because the context of the successive elements will itself serve as a reminder.

General Bibliography

Texts And Major Surveys

Berger, Karol. "The Hand and the Art of Memory." *Musica Disciplina* 35 (1981): 87–120. The best discussion to date of the mnemonic background of the Guidonian hand.

Berns, Jorg-Jochim and Wolfgang Neuber, eds. *Seelenmaschinen: Gattungstraditionen, Funktionen und Leistungsgrenzen der Mnemotechniken vom späten Mittelalter bis zum Beginn der Moderne.* Ars memorativa 2-Tagung, Vienna, 1995. Vienna: Böhlau, 2000. Proceedings of a conference devoted mainly to the arts of memory during the sixteenth century and later, several of the essays demonstrate richly what happened to medieval mnemotechnic in the early stages of academic science and provide an excellent addition to the correlative studies by Rossi, *Clavis universalis* and the essays in Bolzoni and Corsi, *Cultura della memoria.* See especially Ulrich Ernst, "*Memoria* und *ars memorativa* in der Tradition der Enzyklopädie" **(109–68)** and Barbara Bauer, "Die Philosophie auf einen Blick" (481–519), both illustrated with important examples of encyclopedic knowledge diagrams from the sixteenth and seventeenth centuries.

Boethius. *Boethius's De topicis differentiis.* Trans. Eleonore Stump. Ithaca, N.Y.: Cornell University Press, 1978. A translation, with notes and essays on the text, of this basic text in medieval logic and dialectic. Stump emphasizes that the discussion of topics in argument is closely related by Aristotle and Boethius to the classical principles of mnemonic technique.

———*Boethius: In Ciceronis topica.* Trans. Eleonore Stump. Ithaca, N.Y. : Cornell University Press, 1988. A translation, with notes and an introduction, of a work parallel and complementary to *De topicis differentiis*, in this case, Cicero's rhetorical and dialectical treatise on the Topics. Together, these Boethian works defined the way *memoria artificialis* was taught as a part of dialectic as well as rhetoric in the medieval Liberal Arts.

Bolzoni, Lina. *The Gallery of Memory: Literary and Iconographic Models in the Age of the Printing Press.* Trans. Jeremy Parzen. Toronto: University of Toronto Press, 2001. A fundamental study of the arts of memory in Italy during the Renaissance, which expands

and corrects the earlier studies by Rossi 1960 and Yates 1966.

Bolzoni, Lina and Pietro Corsi, eds. *La cultura della memoria.* Bologna: Il Mulino, 1991. The proceedings of a conference, this collection contains a number of important studies of late medieval and Renaissance mnemotechnics.

Caplan, Harry. "Memoria: Treasure-House of Eloquence." In Caplan, *Of Eloquence: Studies in Ancient and Medieval Rhetoric.* Ithaca, N.Y.: Cornell University Press, 1970. 196–246. Brings together in one essay all the major references to mnemotechnic in the ancient world, thereby giving a better sense than many other studies have of the variety and richness of the classical traditions.

Carruthers, Mary. *The Book of Memory: A Study of Memory in Medieval Culture.* Cambridge: Cambridge University Press, 1990. A history of the important roles of memory and memorization in medieval cultures, Latin and vernacular, primarily in the later Middle Ages.

———*The Craft of Thought: Meditation, Rhetoric, and the Making of Images, 400–1200.* Cambridge: Cambridge University Press, 1998. A study of mental visualization techniques and rhetorical invention in the practices of monastic meditation through the twelfth century.

Cassiodorus. *Institutiones.* The standard edition is that of R. A. B. Mynors for the Oxford Classical Texts series (Oxford: Clarendon Press, 1937; rpt. 1963). A translation with extensive notes and commentary was published by Leslie Jones as *An Introduction to Divine and Human Readings.* Records of Civilization, Sources and Studies 40. New York: Columbia University Press, 1946.

Coleman, Janet. *Ancient and Medieval Memories: Studies in the Reconstruction of the Past.* Cambridge: Cambridge University Press, 1992. A detailed survey and synopsis of medieval philosophical teachings about the faculty of memory, it is particularly strong on the scholastic thinkers.

Gehl, Paul. *A Moral Art: Grammar, Society, and Culture in Trecento Florence.* Ithaca, N.Y.: Cornell University Press, 1993. A precise and most illuminating study of the use of *memoria* in the teaching of grammar, based upon a careful analysis of Italian texts used in Florentine schools during the fourteenth century.

Hajdu, Helga. *Das mnemotechnische Schrifttum des Mittelalters.* Vienna: Franz Leo, 1936. Rpt. Amsterdam: E. J. Bonset, 1967. An early but still valuable survey of medieval arts of memory, including many not in the *Ad Herennium* tradition, both in Latin and in the vernaculars.

Hugh of St. Victor. *Didascalicon.* The standard edition is that of

Charles Buttimer, *Hugonis de Sancto Victore Didascalicon de studio legendi.* Washington, D.C.: Catholic University of America Press, 1939. A translation with extensive commentary and notes was published by Jerome Taylor, *Didascalicon of Hugh of St. Victor: A Medieval Guide to the Arts.* Records of Civilization, Sources and Studies 64. New York: Columbia University Press, 1961.

Martianus Capella. *De nuptiis Philologiae et Mercurii.* The standard edition is that of James A. Willis (Leipzig: Teubner, 1983). A translation with extensive commentary and notes was published by W. H. Stahl and R. Johnson in *Martianus Capella and the Seven Liberal Arts.* Records of Civilization, Sources and Studies 84. New York: Columbia University Press, 1977.

Murphy, James J. *Medieval Rhetoric: A Select Bibliography.* 2nd ed. Toronto: University of Toronto Press, 1974. Although this bibliography does not contain any specific entries on memory or mnemonics, it provides concise guidance about medieval rhetoric and rhetoricians.

Murphy, James J. and Martin Davies. *Rhetorical Incunabula: A Short-Title Catalogue of Texts Printed to the Year 1500. Rhetorica* 15, 4 (1996–97). This entire issue of the journal contains a complete bibliography of incunables, including many arts of memory published separately or as parts of comprehensive rhetoric texts, giving both the printing data and current library holdings.

Pack, Roger A. "An *Ars memorativa* from the Late Middle Ages." *AHDLM* 46 (1979): 221–75. An edition with commentary of a Latin mnemonic art from ca. 1425, not discussed either by Rossi, *Clavis universalis* or Yates, *Art of Memory.*

[Pseudo-]Cicero. *Ad C. Herennium De ratione dicendi (Rhetorica ad Herennium).* Ed. and trans. Harry Caplan. Loeb Classical Library. Cambridge, Mass.: Harvard University Press; London: William Heinemann, 1954. This volume offers the Latin text and a reliable English translation of a treatise with the fullest exposition of ancient rhetorical doctrines on mnemonics.

Rossi, Paolo. *Clavis universalis: Arti mnemoniche e logica combinatoria de Lullo a Leibnitz.* Milan: Ricciardi, 1960. The fundamental study of how late medieval mnemonic art was adapted and appropriated into early scientific logical systems. The Italian edition has finally been translated into English by Stephen Clucas as *Logic and the Art of Memory: The Quest for a Universal Language.* Chicago: University of Chicago Press, 2000.

Roy, Bruno and Paul Zumthor, eds. *Jeux de mémoire: Aspects de la mnémotechnie médiévale.* Etudes médiévales. Montreal: Presses de l'Université de Montréal, 1985. An excellent collection of papers from a conference, including several that deal with particular

medieval practical mnemonics, and with the function of memory training in medieval teaching.

Sandler, Lucy Freeman. *The Psalter of Robert de Lisle in the British Library*. London: Harvey Miller, 1983. The basic analytical survey, with many illustrations, of the picture program of Friar John of Metz's *Speculum theologiae* and an essential study of how such pictures were used to produce and organize thought.

Small, Jocelyn Penny. *Wax Tablets of the Mind: Cognitive Studies of Memory and Literacy in Classical Antiquity*. London: Routledge, 1997. A study of the ancient technique described in the *Rhetorica ad Herennium*, linking it to themes in modern cognitive psychology.

Sorabji, Richard. *Aristotle on Memory*. Providence, R.I.: Brown University Press, 1972. Contains an excellent introduction and full explanatory notes, as well as a modern translation of Aristotle's *Parva naturalia* treatise, which is fundamental to the scholastic and later understanding of how "artificial memory" functions.

Ward, John O. *Ciceronian Rhetoric in Treatise, Scholion, and Commentary*. Typologie des sources du Moyen Age occidental 58. Turnhout: Brepols, 1995. An essential survey of the medieval transmission of Cicero's *De inventione* and the Ciceronian *Rhetorica ad Herennium*, which corrects a number of the conclusions of previous historians.

Yates, Frances. *The Art of Memory*. Chicago: University of Chicago Press, 1966. The first survey in English of the dissemination of the ancient mnemotechnic of the *Rhetorica ad Herennium*, and still basic.

Examples of Methodological Applications to Different Disciplines

Antoine, Jean-Philippe. "Mémoire, lieux et invention spatiale dans la peinture italienne des xiiie et xive siècles." *Annales ESC* 48 (i993): 1447–69. Argues that perspective in early Italian painting was influenced by the mnemotechnical tradition of recollection as a mental "walk" among a series of distinct scenes.

Berlioz, Jacques. "La mémoire du prédicateur: Recherches sur la mémorisation des récits exemplaires (XIIIe-XVe siècles)." In *Temps, mémoire, tradition au Moyen Age: Actes du XIIIe congrès de la société des historiens médiévistes de l'enseignement supérieur*

public, Aix-en-Provence, 4–5 juin 1982. Aix-en-Provence: Université de Provence, 1983.159–83. Addresses specifically the uses of mnemotechnic in medieval preaching practices.

Bolzoni, Lina. *La rete delle immagini: Predicazione in volgare dalle origini a Bernardino da Siena.* Turin: Einaudi, 2002. Trans. as *The Web of Images: Vernacular Preaching from Its Origins to Saint Bernardino of Siena.* Burlington, Vt.: Ashgate, 2004.

Busse Berger, Anna Maria. "Mnemotechnics and Notre Dame Polyphony." *Journal of Musicology* 14 (1996): 263–98. Applies the principles of medieval mnemotechnic to practices of late medieval liturgical composition.

Carruthers, Mary. "The Mystery of the Bedchamber: Mnemotechnic and Vision in Chaucer's *Book of the Duchess*." In *The Rhetorical Poetics of the Middle Ages: Essays in Honor of Robert O. Payne,* ed. John M. Hill and Deborah Sinnreich-Levi. Madison, N.J.: Fairleigh-Dickinson University Press, 2000. 67–87. Attempts to relate mnemotechnical composition practices to features in Geoffrey Chaucer's formal elegy for Blanche, the wife of Richard II's uncle, John of Gaunt (Ghent), duke of Lancaster.

Clanchy, M. T. *From Memory to Written Record: England, 1066–1307.* 2nd ed. Oxford: Blackwell, 1993. The second edition of this influential study of oral and literate legal cultures in the Middle Ages takes into account the pervasive influence of mnemotechnics.

D'Avray, David L. *The Preaching of the Friars.* Oxford: Clarendon Press, 1985. A comprehensive study of late medieval preaching, including techniques deriving from mnemonic practices.

Evans, Michael. "An Illustrated Fragment of Peraldus's Summa of Vice." *Journal of the Warburg and Courtauld Institutes* 45 (1982): 14–68. A study of a late medieval teaching and meditation diagram, of a popularity similar to those in the *Speculum theologiae* (see Sandler, *Psalter).*

Gibson-Wood, Carol. "The Utrecht Psalter and the Art of Memory." *Revue d'Art Canadien/Canadian Art Review (RACCAR)* 14 (1987): 9–15. One of the first attempts to relate the ancient art of memory to a program of pictures and texts, in this case those of the ninth-century Utrecht Psalter.

Harding, Catherine. "Opening to God: The Cosmological Diagrams of Opicinus de Canistris." *Zeitschrift für Kunstgeschichte* 61 (1998): 18–39. Applies mnemonic principles to help explain the elaborate meditational diagrams made by a fourteenth-century papal scribe.

Huot, Sylvia. "Visualization and Memory: The Illustration of Troubadour Lyric in a Thirteenth-Century Manuscript." *Gesta* 31

(1992): 3–14. Applies principles of visual mnemonic technique to help explain the layout of a manuscript of troubadour lyric songs.

Sandler, Lucy Freeman. *Omne bonum: A Fourteenth-Century Encyclopedia of Universal Knowledge: British Library MSS Royal 6 E VI–6 E VII.* 2 vols. London: Harvey Miller, 1996. This manuscript is an enormous personal encyclopedia compiled by an English bureaucrat, with many marginal pictures that serve a "finding" function; the analysis takes into account a variety of medieval mnemonic techniques.

Sherman, Claire Richter. *Imaging Aristotle: Verbal and Visual Representation in Fourteenth-Century France.* Berkeley: University of California Press, 1995. Applies procedures of mnemonic technique to help account for the visual program of some texts of Aristotle that were translated into French for the first time.

———, ed. *Writing on Hands: Memory and Knowledge in Early Modern Europe.* Carlisle, Pa.: Trout Gallery, Dickinson College, 2000. The descriptive catalogue of a 2000–2001 exhibit at Dickinson College and the Folger Shakespeare Library of printed materials illustrating the uses of the human hand as a mnemonic and calculating tool.

Ziolkowski, Jan M. "Mnemotechnics and the Reception of the *Aeneid* in Late Antiquity and the Middle Ages." In *Style and Tradition: Studies in Honor of Wendell Clausen,* ed. Clive Foss and Peter E. Knox. Beiträge zur Altertumskunde. Stuttgart: Teubner, 1998. 160–75. Applies the study of ancient mnemonics to questions associated with the medieval transmission of a major canonical text.

———"*Nota Bene:* Why the Classics Were Neumed in the Middle Ages." *Journal of Medieval Latin* 10 (2000): 73–114. Studies the early medieval phenomenon (tenth–twelfth centuries) of writing musical neumes in manuscripts to accompany passages of classical poetry, as an aid to their performance as well as to memorizing them.

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